

1957 NATIONAL CONTEST • RADIO CONTROL • FOREIGN NOTES

NOVEMBER 1957—35 CENTS

# MODEL AIRPLANE NEWS



says BOB PALMER \*

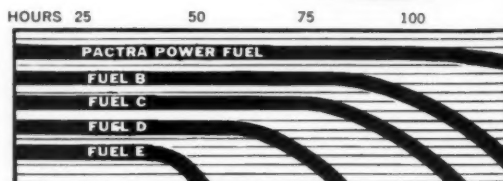
"I keep my contest engines running longer  
at FULL POWER with



Champions, like Bob Palmer, are aware that most fuels leave residues that accumulate on engine parts, soon causing power fall-off. So they have always had "pet" engines used ONLY for contest flights, in order to baby them and retain their peak performance as long as possible.

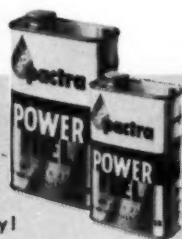
But this is no longer necessary... because the special new lubricant—LUBEX 27—in Pactra POWER FUEL leaves a minimum of residue—easily expelled from the exhaust. And POWER FUEL runs cooler, too, giving maximum protection against overheating, seizing and scoring—so destructive to engines. Its balanced formula provides consistently smooth running throughout the entire flight, switching easily and smoothly from 2-cycle to 4-cycle operation... so very important for successful stunt maneuvers. The broader range of POWER FUEL eliminates need for critical needle valve adjustment in order to bring engines to flying speed... thus getting the plane in the air faster which, combined with the FULL power it gives, means longer flights per tankful... more economy.

Whether you're using your engine for contest flying or just plain fun—Pactra POWER FUEL—with Lubex 27—will keep it running cleaner longer at FULL POWER. See the chart at the right.



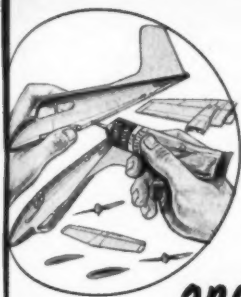
\* Winner Nationals OPEN STUNT Championship  
and 7 times California OPEN STUNT champion.  
One of Bob's favorite planes is this "Veco"  
Thunderbird, powered by a Veco .35 Engine.

Pints 98¢  
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 "Puttin' 'Em Together"  
 and "Paintin' 'Em Pretty" with

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CEMENT  
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SEND 25c FOR BIG NEW 20-PAGE BOOK "WHAT MAKES AN AIRPLANE FLY?"

PRINTED IN 2 COLORS: LOTS OF PICTURES AND DIAGRAMS.

### COMET MODEL HOBBYCRAFT, INC.

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Send 20c for Comet's Great New 1957 Catalog



# For Planes that Fly - the ones to Buy... are NEW Carl Goldberg Models.



Planned as much to do with performance of 1/2 A Blazer. It has lived up to all my expectations... the unusually thin wing gives blazing climb, flat glide... beautiful soaring flight. It's difficult to describe your feelings as you see it spinning up there. Sure ought to win its share of contests. All die-cut balsa parts, snap-by-step illustrated full-size plans, 60¢ engine designed for .009 engine. The Blazer is on your dealer's shelf now... and it's only \$2.50.

## HI FELLOWS -

It's really great to see that more and more modelers are getting the thrill of flying as well as building. There's nothing quite like watching that plane taking shape step by step, and looking ahead to the excitement of flying it!

BY THE WAY, did you know that all our 51 kits contain hints on How To Get Extra Long Flights?

I'VE PUT A PICTURE below of the Ranger 21 that a great many of you like. Dealers have sent in many orders on this one so I know it has your approval. It's nice to know that I designed one that you like so well. To repeat my claim - it's the best flyer in its class! 21" wingspan and complete at \$1.00.



INCIDENTALLY, I'VE BEEN GETTING applications from all over the country for that Model Pilot's Certificate we offer (details on the \$1 kit plus tax). You just beat the time spent on the plane using one of my kits. First application came from Texas, within a few days after the kit went on sale. They do things in a big way down there! We've had some from girls, too! So far, a chap in Wilmette, Ill., holds the best time: 1 min. 26 sec. with the Ranger 21. Keep 'em flying!



THIS IS THE RANGER 21, my new semi-duration model. It's really capable of flights of up to a minute, and can often do much more. A larger, lighter version of the Ranger 21. It's really something new - pre-built plus paper! You'll be surprised at how easy it is to build. Big, flat plastic prop, all interlocking die-cut balsa parts, two colors of tissue, forced landing gear, details, etc., and a long powerful rubber motor to make a wonderful 28" span long-flying model. Full size plans, too, with step-by-step instructions. People raise their eyebrows when I tell them you can buy it at your dealer's for \$1.

HERE'S A PIC of my new Conna 100. I think you'll agree it's an all-balsa beauty, even if I do say so myself. 21" wingspan with fine, stable flight characteristics. This is the "champion of business-liners!" Everything's in the kit to make this simplified flying model that looks like the real job - all die-cut balsa parts, forced landing gear, 11" rubber motor, big dual color, direct-act, windmill, 5" plastic prop, nose spinner, etc. Your dealer has it now, and the price is \$1.

AND HERE'S THE SHOT of our very popular Shooting Star. Your response has been terrific, so I'm continuing to ship them out. With 18" wingspan and all the parts and trimmings in the kit, you seem to think it's a good flying buy at \$1. And that's just what your dealer is asking for it. As a flyer, this ship is pretty close to the Ranger 21.



BY NOW SOME OF YOU may have seen the movie "Spirit of St. Louis" with James Stewart. Isn't it a thrilling film? Your modeler has made his own only all-balsa rubber-powered flying model - of the plane Lindy flew. They're \$1.00, 21" wingspan, all die-cut balsa parts, in fact everything needed to make a miniature duplicate of the ship that gave the world its greatest flying thrill! Best time with this model so far is by Gerald Elliott of Grosse Pointe, Mich. - 1 min. 13 sec. - made very light.



P.S. The easiest way to get these plans of course, is to see your dealer. If no dealer near you, or he doesn't have them, send out of plane plus 10¢ each for postage and packing. Return 7¢, and send out of any three and I'll pay the postage!



**CARL GOLDBERG MODELS INC.**  
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## LATEST "CUSTOM MIDGET" RADIO



RECEIVER TUBE "IDLES" WHILE RELAY REMAINS IN UNENERGIZED STATE. (saving tube and battery)

TUBE CURRENT INCREASES AND RELAY BECOMES ENERGIZED ONLY WHEN TRANSMITTER IS KEYS

SHOULD RECEIVER or TRANSMITTER FAIL WHILE IN USE MODEL COMES IN RATHER THAN FLYING OUT OF SIGHT (This new type of "Fail Safe" operation fully explained in our instructions)

Fully Re-Designed "CUSTOM RECEIVER" weight under 3 ounces including 10,000 ohm relay (relay included) plus Silver Ceramic Trimmer, midge resistors & condensers, Nylon Coat Coil wire etc. Uses one X P G I Tube which IDLES while relay not energized saving Tubes life. Batteries etc. "CUSTOM TRANSMITTER" 27 M C Exam. Free Band with pre drilled base etc. Transmitter box only 4 1/4" x 5 1/4" (Box included) may be hand held or placed on Field. Has range of 1 mile or more. Full Drawings and instructions included. "CUSTOM ACTUATOR" of new magnetic principle operates both rudder and elevators or rudder alone off battery supply, no rubber used for Boats, Aircraft, or Cars of small 1/4 A size up to large 5 ft. models. You do not have to be a Radio Expert to assemble the 3 units, all parts are tagged and marked to correspond to drawings.

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Also Available "STANDARD MIDGET 1" Radio kit, this group of 3 units, same design as above, same Relay. Same type Transmitter and Actuator. The difference from above is the Receiver weight which is greater (slightly over 4 ounces) Heavier components used.

"STANDARD MIDGET 1" RECEIVER TRANSMITTER AND ACTUATOR..... **\$6.98**

PLANS FOR THE "CUSTOM MIDGET" all three units... 50¢  
**BOOKS** "RADIO CONTROL OF MODEL AIRCRAFT" \$3.98  
"RADIO CONTROL OF MODELS" 2.50  
"RADIO CONTROL SHIPS, BOATS, AIRCRAFT" 3.98

'SUPPLY SOURCE DIRECTORY' Tells where to obtain Relays, Tubes, Crystals, all types equipment low as 1/20th normal prices. \$7.00 MERCHANDISE COUPON FREE with Directory... price \$1.00  
"SPECIAL 10 FOOT TRANSMITTER AERIAL" \$1.00  
SPECIAL 10,000 OHM SIGMA RELAY... \$2.98  
X P G I tube... \$3.50  
3-A-4 tube... 1.00  
3-A-5 tube... 1.35  
Keying Switch... .50  
Micro Switch... .98  
Photo Elec. Cell... .50  
Variable Resistor... .50  
0 to 3 Milliammeter... \$2.50  
0 to 50 Milliammeter... 2.75  
Both Meters above... 5.25  
Peterson 27.255 M C... 4.85  
2-9 Crystal... .50  
Roalin Core... .50  
Kesters 3 ounce box... .50  
Soldering Iron... \$2.98  
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Electric Motor 6 volt for Boats 2 to 4 ft... \$5.00 value... 3.98  
Black Cracked Finish Transmitter Cases 4" x 5" x 3" \$2.98  
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25¢ NEW and FULLY REVISED Radio catalogue. Shows parts as low as 1/4 the price you normally pay. Also gives more details, more photos etc. of our kits... 25¢

MODELLERS—Check off each item you wish to order above. PRINT YOUR NAME AND ADDRESS on a separate sheet of paper with above order. Send REMITTANCE IN FULL.

**RADIOMODELS, BOX 36, DEPT. M BALTIMORE 6, MARYLAND**

## INTERNATIONAL COMPETITION NEWS

► RUSSIA WINS NORDIC TEAM AWARD. For the first time the coveted Daumarie Cup was awarded the Russian team for their overall performance and high team standing at the 1957 Nordic finals held August 7-11 at Mlada Boleslav, Czechoslovakia. The news reaches us via cablegram from Gerry Ritz who attended in person. No times were given, but as soon as they are available they will be in this column. Yugoslavia won the Swedish Glider Cup for the highest individual performance.

The Speed KNVVL Cup for individual win was won by Czechoslovakia, who also swept the event by their winning of the very excellent Aero Club d'Italia Team Award.

Unless there was a change of heart on behalf of the appointed USA speed team the models were not at the contest. Unless last minute arrangements with USAF speed fliers were finalized our country's representation was very poor, to say the least. The big problem with our team was their reluctance to send models to be flown proxy on Monoline. European experience with single line is nil, and it was felt that satisfying results could not be made.

With the Nordic Cup now behind the Iron Curtain one ponders the future status of this event. We hope it will be possible for the usual large country entry to compete for this cup when next it comes up for competition in 1959. Perhaps some of those stalwart supporters of the individual contest as against a huge triple event contest will now begin to wonder if perhaps they should have bent a little and supported the proposal that would have predetermined the country all three events would be held in each year.

The committee was besieged at the Nationals to lower the qualifying flight times for local eliminations. With the upping of the power loading and the reduction of the rubber weight, it was felt that performance would in most cases fall below the qualifying times. It must be noted that the flight time for the finals events have not been lowered, and that the new rules were adopted to eliminate ties, and because it was felt that the quality of the flying had reached the stage where something should be done, and it was. The committee feels that the qualifying times are fair, and wishes to point out that the local eliminations are just that, to eliminate. The 20% of entry rules still applies which gives three qualifiers where there are from 13-17 entrants and five when there are from 23-27 entrants. This is a good percentage. If there are 25 contestants at a given elim one out of five can qualify on the 20% rule, and any number can qualify with 12 minutes in Wakefield and 11 1/2 in Power. On an average flight time this works out to 2:24 per flight in Wakefield. The good results with 80-gram Wakefield made it fairly easy the last two years to qualify. Now it becomes a bit harder. This should produce better airplanes to meet the conditions, especially in the Power event.

Ed Dolby  
INTERNATIONAL COMPETITION COMMITTEE of the AMA.





# IS YOUR ENGINE "DRAGGING an ANCHOR!"

**Losing Power because it's Slowed up  
by Sludge and Detriments ?????**

ALL MODELERS KNOW you lose engine power and performance when impurities and residues in fuels such as sludge, varnish, gums and acids begin to deposit on, or attack, delicate moving parts. It's like "dragging an anchor!" FRANCISCO has known the answer for many years. The SECRET is not just putting something in—and believe you we use more costly ingredients than any fuel makers in the world. IT'S ALSO WHAT YOU TAKE OUT—how the fuel is purified and processed and against spoilage, etc. FRANCISCO FUELS are processed 4 ways to remove detriments—to protect your engine, give you more power, give winning performance—longer engine life.

## CHECK THIS REVEALING COMPARATIVE PERFORMANCE CHART



THIS LABORATORY CHART is based on a comparison of the Overall Effectiveness of FOUR LEADING FUELS. Francisco Fuels are identified by A. It considers lubrication, viscosity change tolerances, flash, fire and burning points, Octane Rating Numbers, end points, ratings for atmosphere variations in compression, detriments, conradson, acid corrosion, and aldehyde formation. It reveals that, averaging:

**FRANCISCO FUELS GIVE YOU:—**  
**5 Times Greater**  
**Lubrication Advantages**  
**¼ to ⅓ Less Amount of**  
**Harmful Detriments**

## Remember—FRANCISCO FUELS HAVE WON MORE SPEED RECORDS and First Places

—Than all other prepared fuels combined. They are recognized as tops from Model Meet Champs to Indianapolis Speedway winners. Remember, too—Fuels with Plain Castor Oils contain undesirable gummy qualities. Synthetic lubrications will not stand Flash and Fire Point requirements of our fuel. To play safe—specify Francisco.

Ask your Dealer for:

POWERMIST  
SPITFIRE—  
TOPSOL  
BLUE BLAZER

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# 29th Year of Publication

# MODEL AIRPLANE NEWS

JAY P. CLEVELAND, President and Publisher

NOVEMBER 1957

Vol. LVII, No. 5

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Published Monthly by Air Age, Inc. Editorial and Business Offices: 551 Fifth Ave., New York 17, N.Y. Jay P. Cleveland, President and Treasurer; Y. P. Johnson, Vice Pres.; G. E. DeFrancesco, Sec. Entered as Second Class Matter at the Post Office at Columbia, Missouri.

Price 35¢ per copy in U. S. Subscription Prices—U. S. and possessions: 1 yr. \$3.50; 2 yrs. \$5.50; 3 yrs. \$7.50; Canada: 1 yr. \$4.00; All other countries: 1 yr. \$5.00. Payment from all countries except Canada must be in U. S. funds. Change of Address—Send to MODEL AIRPLANE NEWS, Subscription Department, 551 Fifth Avenue, New York 17, New York, at least one month before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label or copy. The Post Office will not forward copies unless you provide extra postage. Duplicate issues cannot be sent.

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by  
William  
Winter



► About eight o'clock, on the last day of the late lamented Nationals, far removed from the somewhat dampened turmoil, some two dozen stunt aficionados came together as for a duel. There were the participants, George Aldrich, Arthur Pawloski, and Bob Winks, open, senior, and junior stunt winners, respectively, who were here to settle the national stunt championship. Except for the three special judges sitting in a row in the rain, the rest of us huddled under a sideless tent. Not too far off, the team races built noisily toward the finals, occasionally drowning out the hup, hup, of wheeling squads of enemy photographers and reporters. Sitting here in the judges' tent, we

MAN Trophy winners: From L to R—Gerald Knowles, 3; Thomas Alex Lane (2); Michael Burke (1). Event, Senior Control-line scale.



thought of Paul Gilliam.

After covering two Nats for MAN, the Civy Boy man once remarked, "Once you've covered this thing, how do you tell the same story the next year?" How do you cover a Nationals? But now young Winks goes out to fly. It rains harder. Old bundle-of-nerve Aldrich gets to wondering about the rain on his glasses, but settles on the problem of no wind to blow his slipstream away. Slipstreams haunt George because he flies in the same place every time and the bumps don't make him look good. Pawloski flies now. When George flies we comment to Mike Schlesinger, the tall, thin man from Top Flite, pale as a ghost, that the younger boys are mighty sharp—and Mike really turns on the suffering. Yeah, how do you cover a Nationals, Paul? Winks, and his Dad helping, are up again. Been flying stunt only a year or so—a new modeler and as cool as a cucumber, battling the country's best. There was a time when all those officials stamping up and down in those awesome helmets used to scare us stiff. Not Winks, though, or Pawloski. George can afford to be nervous—he can't afford to lose. And he doesn't.

(Continued on page 7)

### NEXT MONTH'S COVER

Supermarine Spitfire

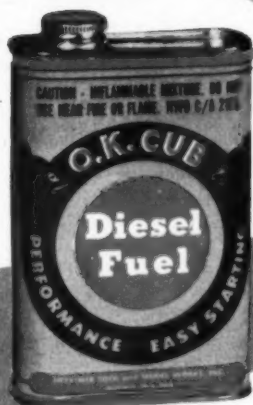
### ON THE COVER

Something different in control-line is this sport model, shown with its designer-pilot, Vern Clements. An interchangeable twin-float and wheel gear add to its versatility. "There's nothing like water take-offs and landings," says Vern. Skimming the water inverted is a sight, spectators agree.





*A Quick Start Every Time!*



**85c**  
PINT



**50c**  
1/2 PINT



**85c**  
PINT



**\$1.50**  
QUART

## OK DIESEL FUEL For Diesel Engines

For easy starting and top performance in any weather . . . for long, smooth engine life . . . ask for OK Diesel or Glow Fuels. You'll be delighted with the instant response and sustained power of these fuels in speed, endurance or stunt flights. And you'll like the way they leave your engine after long usage . . . clean, free

## OK GLOW FUEL For All Glow Engines

from varnish or residue, ready to go! That's because the high-powered fuels are blended with high-heat-resistant lubricants that won't thin out under engine heat—nor gum up when the engine cools. For the most fun in flying, ask for OK Diesel or OK Glow Fuel!

Here's Everything You Need to Operate an Engine!

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Just the right fuel . . . just the right accessories for satisfactory engine operation! Contains:

- 1/2 pint OK Glow Fuel
- 1 filler spout with plastic tubing
- 1 set battery leads fully assembled and soldered, with battery connection and glow plug clip
- 1 combination plug wrench and screw driver

For Use with All Model Engines

Also  
Recommended  
for

COMET SABRE 44  
COMET MUSTANG  
A J FIREBABY



**\$1.39**

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LEADERSHIP

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# OPERATE ANY MODEL BY RADIO CONTROL

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Here's a really workable BASIC STARTER OUTFIT that we guarantee 100%. POSITIVELY no surplus or junk parts! Consists of powerful Super "27" RECEIVER, RELAY and TRANSMITTER... with all resistors, condensers, etc. Operates on 27 1/4 mc. You assemble these basic components and later on add your accessories - batteries, tubes, etc. to give you a really terrific R/C outfit. Will operate all models from 1/4 A's to the largest. Everything's precision made and super prefabricated to assemble quick and easy. Comes with simple to follow step-by-step instructions. An ideal starter outfit for all R/C beginners!

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Same as above but with deluxe added components and accessories.

OR... ORDER SEPARATELY  
Super "27" RECEIVER KIT... with all components, less tube 4.95  
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Complete PARTS & ACCESSORIES SET - Trans. & Recv'r. Tubes, Crystal, Escapement and complete installation kit. Everything you need to operate, less batteries 9.95

SAVE TIME! USE OUR HANDY ORDER FORM ON NEXT PAGE

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## MAN at Work

(Continued from page 4)

► Do you say the Nationals are big? Over 1,500 entrants put Philly in the same league with Chicago. Almost 500 guys go home with awards. This is a Nationals? The Nationals you see and the one you write about later are two entirely different things. The rain is softer now, just a drizzle, and the sun promises to burn through. FAI free fighters eye the sky as they wait to fly off a twelve-man tie. Cargo clippers stream into the air with screaming, puny motors. In the background, helicopters make sewing machine noises and Jetex PAA loaders zizz, zizz about. A Zipper—well, now—circles slowly overhead in a weak riser and Carl Rambo says, yes it's a Zipper, some of the coast boys still build 'em but with box fuselages, and, see, how it squats like all Zippers in the glide. Kibitzing experts, their own events flown, give out with priceless remarks, in low voices, almost to themselves. That first left turn on the Cargo jobs. That high thrust line job. Manny Andrade, Cliff Montclair with a winning PAA Load. By the hundreds. Do you remember... did you see... what about that... Yes, how do you tell people about a Nationals?

This junior here, stoop shouldered, barracks bound for shut-eye. Want a lift? Flew combat all night. All night! Where? Just two of you! Some officer stopped us at four a.m. Impressions. Sights. And sounds. Nothing like distant stunt jobs to make you intolerably sleepy on a hot afternoon.

Buzz, buzz, hour on end. Now out at Kroamer's flight strip there was a tree, across the flight strip. Shady. But the sun circles the tree and gets in your eyes. You can't win.

The big fellow at the fence pleading with a kid on the outside. It was so big—a hand launched glider evidently. Another, trying to pull a crate away from another kid, on the outside of the fence, but with a good grip on the model nevertheless. He pulls the engine out and scrams. The farmer that blasted a free flight with buck shot. The Nordic entrant who got his crate back so speedily the first flight that he let the radio car retrieving service bring it back on the other two flights. Why chase?

► Who really reports the Nationals? What is the story? Statistics? Bill Dean corrals them in the 1957 Nationals story and pictures. All Nationals are the same, yet each takes on its own character. The '57 meet clanked, it sputtered, but it got there. It was too big. Much too big. It rested mightily heavily on the Navy brass. It taxed the facilities of the United States government. It did worse than that to meet officials. Someone tried to disbar team racers with unequal span wings as being asymmetrical—prohibited by rules. Mono-line proto jobs for whipping. Skirmishes over rules suggested that the FAI must have written them. There were stories and rumors and rumors of rumors. Too many entrants, too many events, too many awards, too many people needed behind the scene. Can you run a thing like this without the Navy? Where are we going? A special event and trophy for every contestant? No this isn't the story.

► People? The Nats last for 168 hours. Within the first 15 minutes on the station ran into solid citizen Red Hillegas, Tony Becker, Matty Sullivan (with his pop corn plastics stunt wings, fuselages, etc.) George Aldrich, Billie Fritchie, Jerry Ritz, Harold deBolt, Leon Shulman—and let's eat. The crowd from Buffalo. Howard Johnson's motel teaming with Open Class guys who like their comfort. George "Professor" Perryman and the Elliotts from Atlanta around a swimming pool. The work hangar in the wee hours where you'll find the Conovers, Frank and Johnny Zaic, Cal Smith, Frank Ehling, and dozens of guys you haven't seen for years, all casing the joint, inspecting the thousands of models sitting on row after row of benches. With over 900 Open class contestants entered, there's no end of old timers, one of the phenomenal things of this Philly meet. Manufacturers. Duke Fox, Bill Effinger, Johnny Brodbeck, Dunham, Bonner, Gil Henry, to mention a few. You meet them in diners, on the field, in traffic, anywhere and everywhere, yet miss other old friends like Carl Goldberg, competing as usual—he's entered every Nats! And C. O. Wright—but you glimpse him taking his trophy. You chase people all week never find them; other people chase you, like being shadowed. You know they are there, never see them, and dozens of people tell you who is looking for you.

(Continued on page 60)

# RADIO CONTROL SPECIALS

"AMTRON"  
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R/C OUTFIT  
Label Design! Best Quality!

TRANS. - RECVR. - ESCAP. TUBES - RELAY - CRYSTAL  
**EVERYTHING**  
WITH METAL CASE

FOR ALL MODELS... BOATS, CARS, PLANES  
FROM 1/4 A TO THE VERY LARGEST

America's Hobby Center SCOOPS 'Em ALL! We dare you to find an R/C bargain like this anywhere in the world! It's a 27 1/4 mc. free band unit. No operator license required. Range 1 - 1 1/2 miles. Rugged. Safe. Economical performance. No other set—regardless of cost—is more complete! All new, latest design equipment. No Surplus! No Junk Parts! Made special for us... to the most rigid specifications. Outfit is all-prefabricated... really simple to assemble. Ideal for beginners... yet advanced R/C man will find this an ideal unit!

**FULLY GUARANTEED** \$39.95 VALUE

HERE'S WHAT YOU GET:  
Transmitter, complete with tube, crystal and telescoping antenna; Twin-Tube Receiver, with relay and tubes; assembled self-neutralizing escapement; Super sensitive contact relay; Dust Cone Tuner; Complete installation kit; Easy-to-follow, step by step instructions for assembly and R/C Manual. You get EVERYTHING you need to operate... complete, except for batteries.

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**MONEY BACK GUARANTEE INCLUDED!**

**BRAND NEW! Introducing a Super Deluxe TRANSISTOR**

"AMTRON" R/C OUTFIT  
You can't have a finer outfit! It's precision made... with a revolutionary TRANSCORIZED receiver and a super sensitive deluxe relay. All complete with deluxe components, but less batteries. This R/C outfit is truly DELUXE... and really priced low!

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**Field Strength Meter 9.95**  
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Kit B-4 Stearman  
Kit B-5 Cessna 140  
Kit B-6 Fokker 100  
Kit B-7 Beech Bonanza  
Kit B-8 Piper Cub  
Kit B-9 Piper Cub  
Kit B-10 Piper Cub  
Kit B-11 Piper Cub  
Kit B-12 Piper Cub  
Kit B-13 Piper Cub  
Kit B-14 Piper Cub  
Kit B-15 Piper Cub  
Kit B-16 Piper Cub  
Kit B-17 Piper Cub  
Kit B-18 Piper Cub  
Kit B-19 Piper Cub  
Kit B-20 Piper Cub

**Flying Scale Models "N" LINE**

**29¢ EACH**  
Kit B-1 Cessna 140  
Kit B-2 Piper Cub  
Kit B-3 Piper Cub  
Kit B-4 Piper Cub  
Kit B-5 Piper Cub  
Kit B-6 Piper Cub  
Kit B-7 Piper Cub  
Kit B-8 Piper Cub  
Kit B-9 Piper Cub  
Kit B-10 Piper Cub  
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Kit B-15 Piper Cub  
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Kit B-18 Piper Cub  
Kit B-19 Piper Cub  
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Kit Q-3 Arrow Trainer  
Kit Q-4 Stearman  
Kit Q-5 Cessna 140  
Kit Q-6 Fokker 100  
Kit Q-7 Beech Bonanza  
Kit Q-8 Piper Cub  
Kit Q-9 Piper Cub  
Kit Q-10 Piper Cub  
Kit Q-11 Piper Cub  
Kit Q-12 Piper Cub  
Kit Q-13 Piper Cub  
Kit Q-14 Piper Cub  
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Kit Q-16 Piper Cub  
Kit Q-17 Piper Cub  
Kit Q-18 Piper Cub  
Kit Q-19 Piper Cub  
Kit Q-20 Piper Cub

**Struct-O-Speed E-Z-to-Build "K" LINE**

**50¢ EACH**  
Kit K-1 Piper Cub  
Kit K-2 Spitfire  
Kit K-3 Arrow Trainer  
Kit K-4 Stearman  
Kit K-5 Cessna 140  
Kit K-6 Fokker 100  
Kit K-7 Beech Bonanza  
Kit K-8 Piper Cub  
Kit K-9 Piper Cub  
Kit K-10 Piper Cub  
Kit K-11 Piper Cub  
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Kit K-16 Piper Cub  
Kit K-17 Piper Cub  
Kit K-18 Piper Cub  
Kit K-19 Piper Cub  
Kit K-20 Piper Cub

**Flying Scale Models "R" LINE**

**59¢ EACH**  
Kit R-1 Cessna 140  
Kit R-2 Piper Cub  
Kit R-3 Piper Cub  
Kit R-4 Piper Cub  
Kit R-5 Piper Cub  
Kit R-6 Piper Cub  
Kit R-7 Piper Cub  
Kit R-8 Piper Cub  
Kit R-9 Piper Cub  
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Kit R-17 Piper Cub  
Kit R-18 Piper Cub  
Kit R-19 Piper Cub  
Kit R-20 Piper Cub

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Kit M-2 Piper Cub  
Kit M-3 Piper Cub  
Kit M-4 Beech Bonanza  
Kit M-5 Beech Bonanza  
Kit M-6 Piper Cub  
Kit M-7 Piper Cub  
Kit M-8 Piper Cub  
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Kit M-16 Piper Cub  
Kit M-17 Piper Cub  
Kit M-18 Piper Cub  
Kit M-19 Piper Cub  
Kit M-20 Piper Cub

**FLYING SCALE MODELS "V" LINE - \$1.29 EACH**

Kit V-1 Piper Cub  
Kit V-2 Piper Cub  
Kit V-3 Piper Cub  
Kit V-4 Piper Cub  
Kit V-5 Piper Cub  
Kit V-6 Piper Cub  
Kit V-7 Piper Cub  
Kit V-8 Piper Cub  
Kit V-9 Piper Cub  
Kit V-10 Piper Cub  
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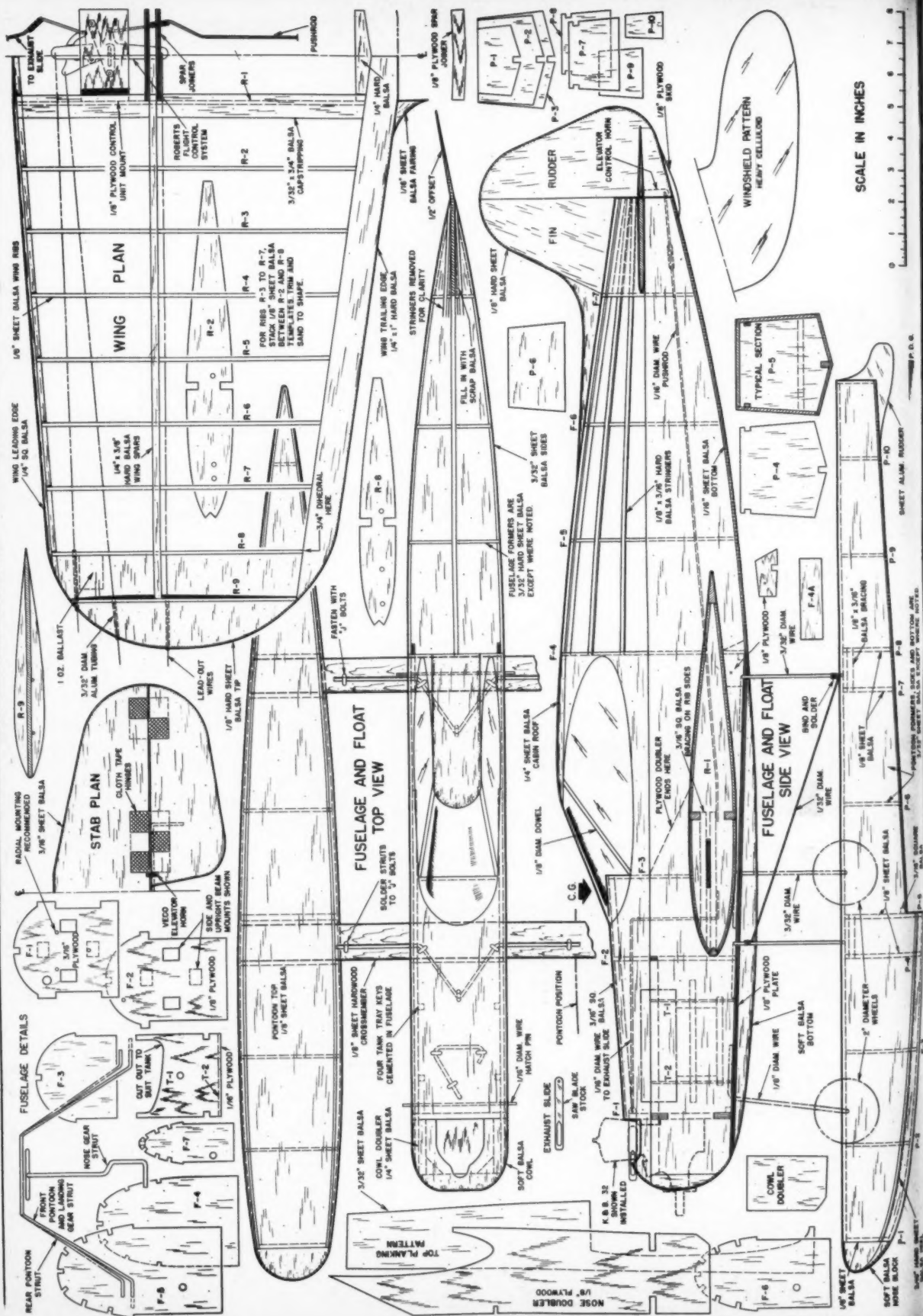
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# SURE FUN



by VERN CLEMENTS



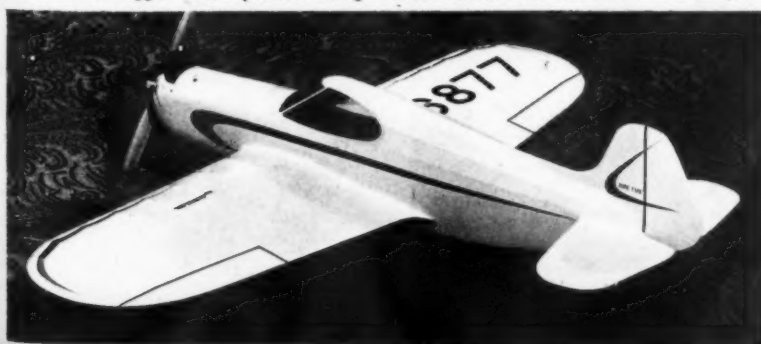
As seaplane, ship gets on step, rises like real crate. Amazing sight is inverted flight.

**For land or water this is the sport plane to end all sport planes! The J. Roberts Flight Control System makes Sure Fun dream to fly.**



As landplane, craft looks like Goodyear racer. Does all loops, and horizontal eights.

Third line—as rigged here—operates sliding exhaust throttle for an excellent low speed.



► This sport model is controlled by the J. Roberts Flight Control System which gives you complete control over your engine speed at finger-tip command. You can fly at any speed you want, yet the control response is instant with no lag.

A typical flight with the Flight Controlled model presented is as follows: From your position next to the water's edge you signal your helper to release the twin-pontoon model. You give it just enough throttle to get on the step and let the plane skim over the water's surface. Apply back pressure with the throttle finger; the motor instantly roars to full power, a little more up elevator and the seaplane is airborne in a most realistic manner. Now you begin feeling out the controls. It flies nicely inverted, giving a very unusual appearance with the pontoons facing the sky. Just for fun, idle down and make a low-speed pass over the water with the rudder almost touching the surface—the spectators will turn pale but you have power control at your finger-tips. You now try several horizontal eights, inside loops, outside loops, and wingovers. The ship is very smooth on maneuvers although more sky is used than with an all-out stunt model due to a higher wing loading. Now try full idle control—the engine is now very quiet since the exhaust back pressure slide is almost closed. This adds considerable realism to the landing approach. After a slow landing speed has been reached, touch the pontoons to the water and let the plane taxi as far as you like before giving throttle and becoming airborne again. If you misjudge on the approach, you can use a little throttle and come around for another try. Yes, this is Sure-Fun.

(Continued on next page)

In a matter of minutes the Sure-Fun can be changed over to a land plane by simply changing the removable bottom fuselage hatch. Two hatches are used, one with pontoons mounted on it, and the other with a wheel gear attached. The two-hatch system allows proper strut positioning for both gear types as well as giving accessibility to the removable gas tank mounting and the Flight Control plane unit. The tricycle wheel gear is positioned for safe take-offs and smooth touch-and-go landings, even on a grass surface.

The J. Roberts Flight Control system is a three-line method of control. Line pull is distributed evenly to all three lines during any control movement. This allows lighter lines to be used than with a two-line system. The Sure-Fun flying wires are made up of three equal lengths of .012 stranded cable. The wing tip elevator lead-out cables (the outer two cables) are tied even in length. The center cable (the power cable) is then tied  $2\frac{1}{2}$ " longer with the elevator cables pulled tight. This is full motor speed position of the Flight Control plane unit.

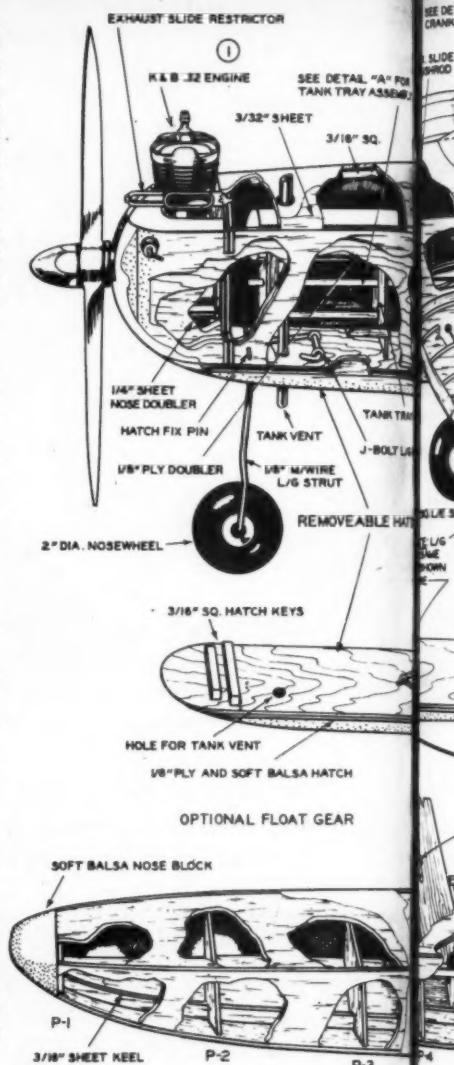
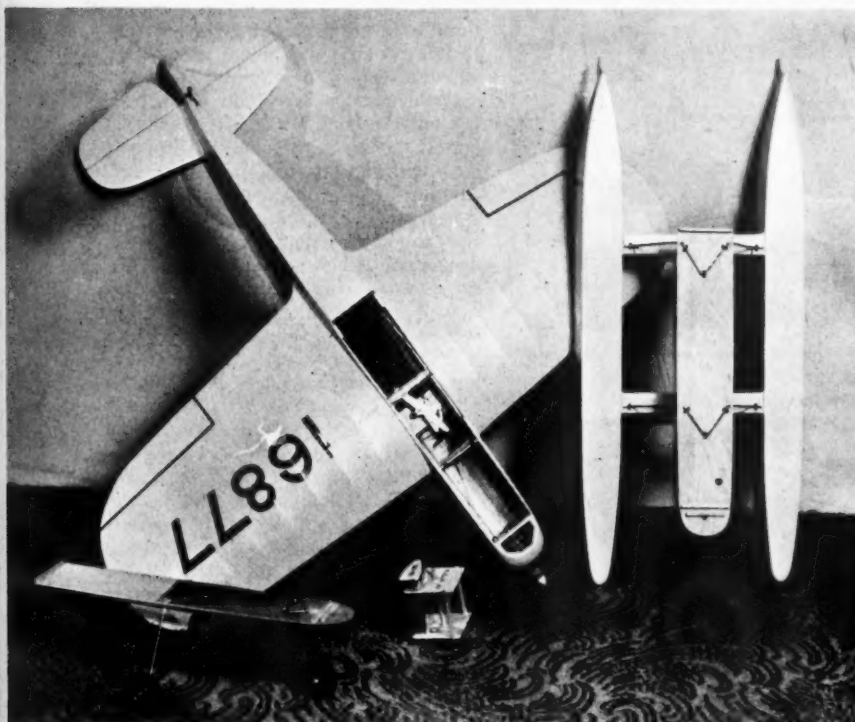
The special Flight Control handle unit hook-up cables are staggered for proper control when hooked up to the plane lead-outs with the three equal length flying wires. The forward position of the handle trigger is for low speed, back is full power, with any speed you want in between these two positions. This handle gives you complete elevator and

engine speed control with one hand.

Construction of the Sure-Fun is simple, considering the realistic semi-scale appearance of the finished product. Stress points are strongly reinforced and keyed in place. In choosing wood sizes the weight element was considered secondary to the strength and long life desired, especially since the wing loading was to be higher than a stunt ship to allow good spot landings without ballooning tendencies. If you plan to use a lighter engine than a .35, keep the tail end of the ship light and don't spare weight in the nose construction.

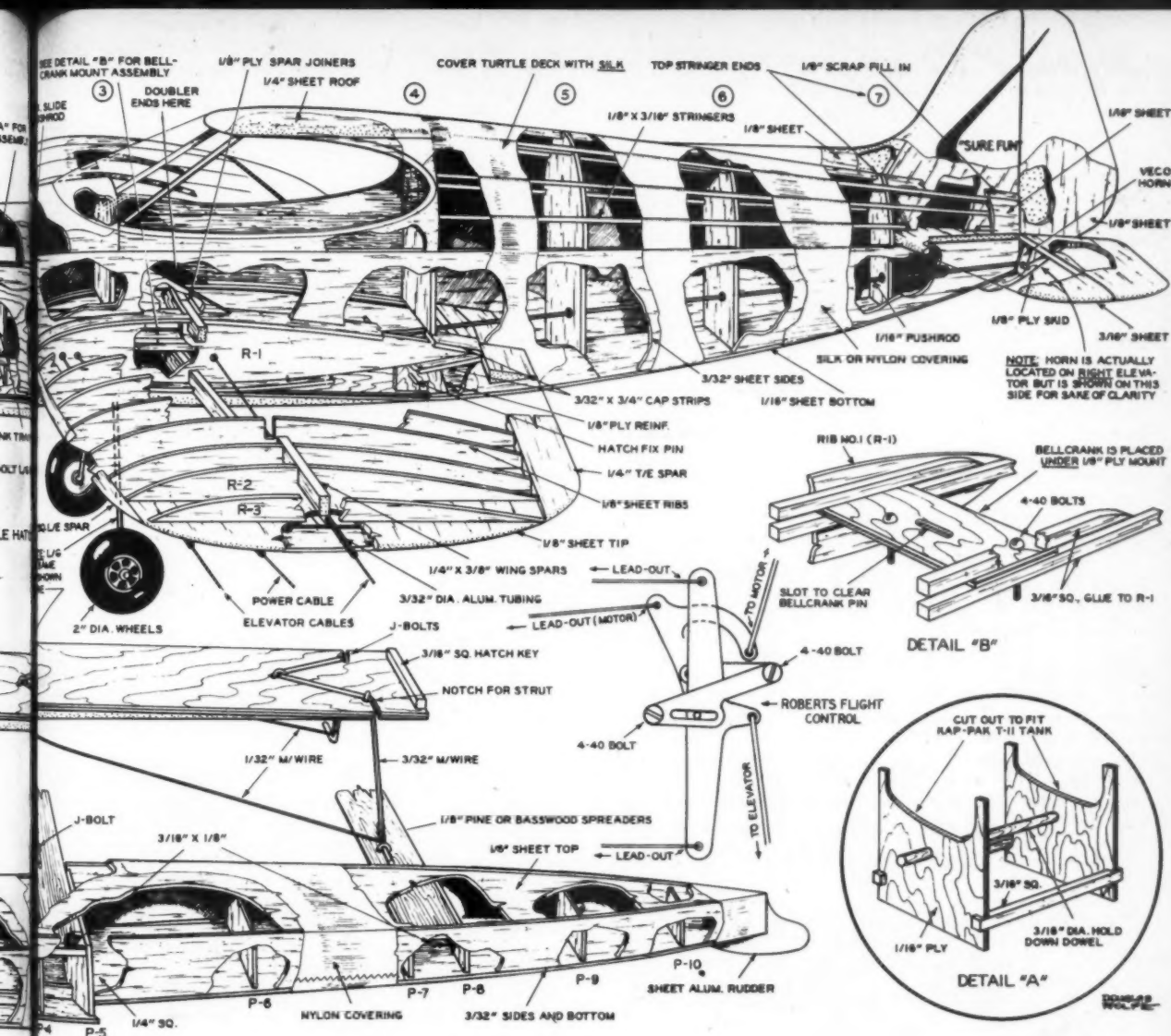
The 3/32" medium hard balsa fuselage sides should be pinned together for cutting and sanding to shape. After cutting to shape lay the sides on the plan and double check for accuracy of wing cut-out and the notches for Former #1 (firewall) and Former #2. Cut nose doublers and rear hatch pin reinforcements from  $\frac{1}{8}$ " plywood. Rub a coat of cement on joining surfaces of these pieces and allow to dry before applying more cement for permanent attachment. The first coat of cement merely soaks into the wood—the above pre-gluing method will greatly increase the strength of any model. The sides should be clamped together and holes drilled for the two 1/16" piano wire pins to be pushed through the fuselage later for the removable gear hatch rubber band attachment. The pushrod slot should be cut in the tail of the right fuselage side

Either wheeled gear or floats strap to fuselage bottom with rubber over dowels, ala the RC jobs. Another keen idea is the removable tank, which slides into place. Note bellcrank.



for pushrod outlet to the control horn.

Radial or beam mounts are shown on the nose former patterns. Check your engine mounting dimensions against the plans before tracing the 3/16" plywood firewall (Former #1) and the  $\frac{1}{8}$ " plywood Former #2. An upright engine mounting is recommended for seaplane use. When tracing the formers don't forget to indicate pushrod hole positions. Drill these holes before assembly. Cement 1/16" I. D. eyelets in Formers #5 and #6 pushrod hole positions. After the wing is in position and the controls are hooked up don't forget to cement a wire pushrod guide at Former #4 Position. This guide may be bent from a bobby pin or 1/32" piano wire and cemented in place with a small strip of gauze for strength. Drill a 3/32" hole in Former #2 for the motor exhaust slide pushrod. The pushrod fit must be loose in this hole to prevent binding.



Cement the formers in position and check alignment carefully. Cut and sand the stabilizer and elevator to shape, drill holes in the elevators for a Veco Control Horn (No. 340) and assemble, using aircraft pinking tape for hinges. Cement the stabilizer in position before cementing the vertical fin in place. Note that the fin extends to the top of the stabilizer. Do not cement the rudder to the fin until the stringers are in place and covered with soft 1/16" sheet between Former #7 and the tail-end of the fuselage. You will note that the stringer ends must be beveled before cementing to the fin sides. Carve 1/16" off the outsides of the stringers from Former #7 to the fin trailing edge for the 1/16" sheeting. Do not build up the cabin or sheet the nose top and fuselage bottom until the wing is in place and the controls are installed and working properly. Cement hard balsa cowl blocks in place, carving and sand-

ing to shape when dry.

The tapered wing ribs are easily made by using the stacked rib method. Make plywood or metal patterns for ribs #R-1 and #R-2. Stack eight sheets of medium soft balsa between these patterns, drill two holes through the stack and bolt together with motor-mount bolts. Carve and block-sand the rib stack down to the patterns. Hand saw the leading edge and spar notches and drill the lead-out wire holes. You can now take the bolts out and go through the above procedure again, eliminating the lead-out wire holes for the other set of ribs. Ribs #R-3 are traced and cut out separately and cemented to the top and bottom of the wings 3/8" sheet tips. The wing spars should be cut from hard balsa. They are tapered between ribs #R-2 and #R-3 to allow smooth wing-tip covering. Cement the four 3/8" plywood dihedral braces in place, checking the

dihedral angle. Next, cement the 3/8" plywood control unit mount plate in place—3/16" square strips are cemented above and below the plate, inside ribs #R-1. After the wing center section cement is dry, trim 3/32" from ribs #R-1 (do not notch into the spars) and cement the 3/32" sheet cap strips in place. Wet the outside surface of the cap strips for easier bending to the rib curvature.

Bind and solder the three flexible wing lead-out cables to the Flight Control plane unit, thread the cables through the wing ribs and bolt the control unit in place. Use washers between the control unit and the mounting plate for spacing to prevent the pushrods from rubbing on the plywood control mount plate. Cement gauze over the wing-tip lead-out wire tubes.

The Flight Control plane unit comes with complete (Continued on page 34)





Pretty C Class original was VTO'ed by Jim Paysen, Wichita. Failed to place in this event. But Jim won Open, Grand Championship.



High-speed head-on pass by two of the Blue Angels, flying Grumman Tigers, made even stunt boys flinch. One Tiger raised dust.



Super Sabre F-100, only a model flown by Daniel Damiani. A rain annoyed but didn't stop control fliers during scale, and carrier.

# The 1957 Nationals



Pictures by Bill Dean

**Seismographs jumped everywhere when the 26th annual clambake got to steaming at Willow Grove NAS, July 29 through August 4, near city of brotherly love. Brother!**



Wheel chair limits Les Grogan, Dallas, to sport flying, but he designs top speed jobs. His Thermal Hopper A won for Hardy Lewis.

How can a guy like this miss championship? Hardy Lewis, Junior Champ, swept Proto, A, B, C, in speed, took a second in stunt.



★ Held at Willow Grove NAS, Pennsylvania, July 29 through August 4, the 26th National Model Airplane Championships were the biggest "Nats" of history. The 1,521 entries flying in no less than 38 different events—split into Junior (288), Senior (273) and Open (960) classes—took home 444 awards.

The overflow crowd of modelers and helpers occupied barracks, a "tent city" on the field and every room and motel for miles around. The Navy housed 918 on the station. Alone among the "foreign visitors" were Canadians and one contestant each from England, Scotland and South Africa. Even more than usual, it is true to say that nobody ever sees a complete Nats. There is always so much going on at the same time in different parts of the field.

Grand and Open Champ was Jimmy Paysen of Wichita, Kansas, who managed to pull off this feat by getting 2nd in free flight A Gas and 3rd in FAI Power—plus a great many other lesser placings to stack up an impressive total of 570 points. Senior Champ Don Curnett of Fairfax, Iowa totted up 360 points, with 1st in Nordic A.2, FAI Power, Clipper Cargo and 2nd in Unlimited Rubber. Junior Champ, Hardy Lewis (280 points) of Texas simply mowed down the speed opposition by winning everything (¾A, A, B, C and Proto Speed) except Jet. For good measure he took 2nd in Stunt as well. At only 15, he already has the Senior and Open boys looking back over their shoulders!

Weather at Willow Grove this year was hot and varied. Plenty of sun, some rain showers and lots of dust. Allergy victim Bob Hatschek suffered, but chalked up a first as the only man ever to win in Unlimited Rubber wearing a gas mask! The mornings usually started off fairly calm, with wind strength increasing steadily as each day progressed. Highly popular with parched contestants were the dozens of water coolers dotted around the field by the thoughtful Navy hosts. Parking control left much to be desired—with the exception of the RC flying area, where they had things very well organized—and literally dozens of free flight models were written off after crashing into cars.

On July 29th—the first day of the Nats, Vern Kroamer





Not the old water hole but the free flight ROW "tank." The event always good for plenty of fireworks for delayed take-offs thrill.



Zippy looking jet PAA Load, Pete Lainonen, Wichita, a nice craft using augmentor tube to increase the thrust of the Jetex engine.

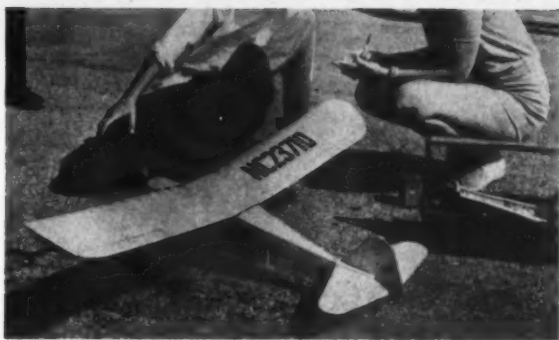


Wheel pants enhanced appearance of winning stunt model, Senior Art Pawloski, Detroit, ran up 605.5 points, 50 inch, Fox .35 job.



Aeronca Sedan won Open free flight scale for Dan Lutz, Hawthorne, Calif. Power by K & B Allyn Sky Fury .049. Real looking aircraft.

of Sellersville, Pa. started things off with a flourish, by setting a new world's distance record for RC Models. After securing the co-operation of the local Police Chief to keep the roads clear, he started his flight from Turner Airport and flew his Piper Cub J3 scale model via the highway to Willow Grove NAS four miles away. The model was followed in a car and was flown at about 500' altitude at 50 mph, landed without mishap. Weight at take off was



Shraik-powered Taylcraft, 1941 vintage, won free flight scale junior-Senior; by Mike Levin, Ann Arbor. Is good in a wind, too.



Authentic orange-deep blue color scheme, O & R .29's, featured 1935 Curtiss Condor constructed by David Shipton, Delavan, Ill.



Pawloski also copped Senior combat with an airplane that commanded respect for design, construction, and appearance. Strip ribs.

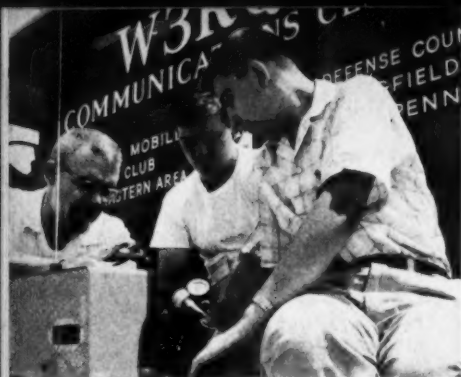


Sabre Dance without throttle, by John Quimby, Elyria, Ohio. John just wiggled flippers until ship slowed down, hung on the prop.

6 lbs. 9 1/4 ozs., including 5 1/4 ozs. of fuel. The previous record had been 1.49 miles and was set by the Russians in 1956.

Many AMA records were shattered, including three in Indoor, nine in Speed and two in Clipper Cargo. Senior Indoor H/L glider winner was Lee Hines, Torrance, Calif., who topped Junior, Senior and Open records to set a new mark of 1:17.2. In speed, a sizzling new Jet time of 177.27 mph was made by Open

(continued on next page)



Model recovery center; 5 radio cars outside the field. Forty, 50 models a day were recovered.



Open stunt winner, stunt fly-off champ, George Aldrich, Tyler, Texas. Nobler and a combat job.



Speed modelers usually well equipped. Winding up John Brownlee's K & B .29 ship in the B Open.



Beautiful Waco F-3, George Kilbey, judged. It took the RC scale. Anderson Spitfire, Bramco 5.



Rotating Bill Wisniewski, Lakewood, Calif., and his Open Class A winner. K & B .19, did 154.58.



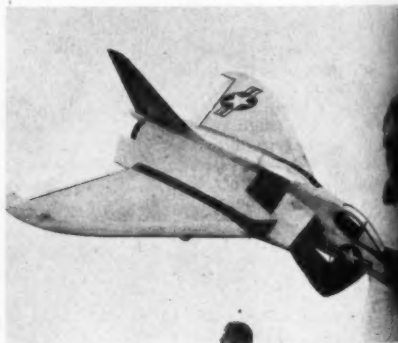
Al Stegens, Open; Jere Draper, Senior; Cleveland. Both won proto, same design, on Mac .29.



Joe Bilgri, 32:53.8, D stick indoors, Open. Joe gets capable help from oldtimer Manny Andrade.



Cutlass, ducted fan, OS .35, George Kostura. It flew UC. Weight 3 1/4 lbs., 48 in., 11,500 rpm.



George's Skyray had car fan. Cutlass, 8-blader, Skyray, 5-blader. He's from New Brunswick, N. J.

Winner Ted Reese—an increase over the old figure of almost 10 mph. Clipper Cargo weight lifting jumped from 43% ozs. to 100% ozs., but new rules permitted three flight totals. Sen. Champ Don Gurnett's model staggering aloft for three winning hops.

But passing on from new records, let's take a quick run through some of the other winners: Radio was the big show this year, with 307 entries in the five events. In RC Multi (Jun./Sen./Open), it was a battle of the giants, with Bob Dunham scoring 266.5 points to gain top place. Just half a point behind was Harold deBolt, followed by Walt Good with 256.5 points. In RC Rudder, Dick Bennett (Jun./Sen.) won with 80.5 and Dick Allen (Open) with 106.5 points. RC Intermediate (Jun./Sen./Open) went to Don Brown with 139 points. Keith Storey scored 24.3 points to win the RC Pylon Race with his scale type Bonzo—and RC Scale

went to George Kilbey's massive 1/5 scale multi-channel Waco F3 biplane. In fact, radio was so impressive, you'll find a special report on Nats RC models elsewhere in this issue of MAN. True spins were commonplace.

The C/L and F/F Scale events brought out some of the finest entries we have ever seen. Tom Dean scored a whopping 347.2 points to win in C/L Open Scale with his amazingly detailed Aeronca Crop Duster, not the first time for this frequent Nats favorite. Fellow Texan Jim McCroskey was unable to make the trip with his Mustang F-51H to this Nats—could it be that after three Nats wins in a row he's retired! F/F Scale Open went to another Aeronca—by Dan Lutz, who collected 156 points. In Stunt, George Aldrich flew the pattern with his usual easy style, winning with 618 points—just eight points ahead of nearest rival George Wagner. Later, Aldrich (Continued on page 34)



Juniors by hundreds had fun. Bob Blair, Nes-  
haminy, Pa., readies PAA jet-1956 MAN plan.



Navy's carrier took its usual pounding. Douglas  
SBD Dauntless, J. Guifeleni, B'klyn, speed run.



P. Schoenky, holds down 350 Jetex 'copter with  
pole 'till rotor speeds. Tipped here, won later.



From Kirkwood, Mo., 'copter master Schoenky,  
got second first place with Signature whirly bird.



Mac 29 case, Torp 29 piston, liner, Wisniewski,  
a B Open for Arnold Nelson, Long Beach, Calif.



Team Open Winners, 1 to 5; Bob Heminway,  
Audubon, N. J., first, left, front. Used a Fox .29.



Foxy Bill Talley, Leighton, Pa., had pendulum  
control in OX-5 Bird bipe. Power, K & B .049.



Fine flier, Liberator, 40 in., 4 Atwood's. The  
smart job by Bob Kleinfelder, Hamilton, Ohio.



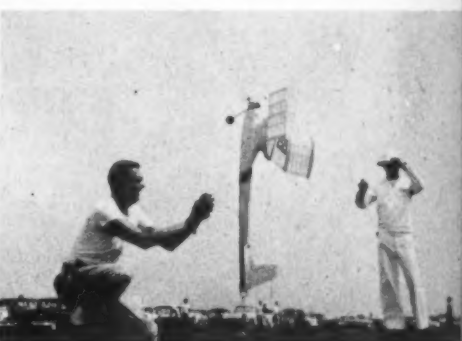
Jerry Seibert's Nordic 72 gets good launch by  
John Clapp. In this event, helper's get glory.



Combat winner—we barely made this one! J.  
Kastetter, Clifton, N. J. Fox liner in 29 case.



Wind-in-the-wires, DH 1A, J. Winter, Upper Dar-  
by, Pa. Graceful looking craft had Atwood .049.

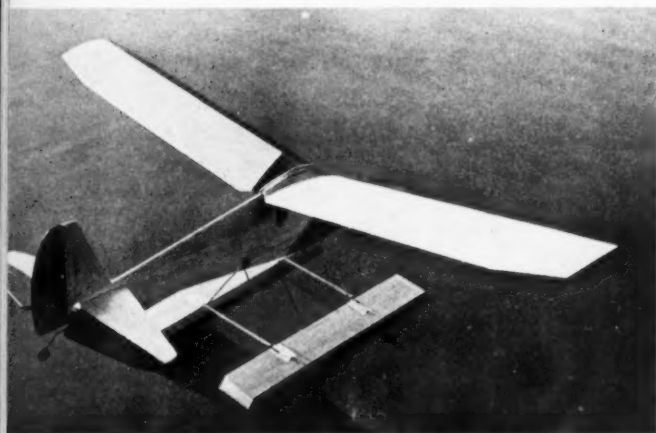


Veteran of many Nats, Ernie Shaller, Detroit,  
VTO's 32-ounce original with OS Max .29 engine.



# Profile Silvaire

**Thin-man version of Luscombe lightplane makes a quickie flier for those .049 engines. All wood construction. For land or sea and, if you are stubborn, ukie, too.**



No, the designers don't have a one track mind this month. Ted Strader meet Vern Clements, or vice versa. All at sea, that's us.

by **TED STRADER**

► As profile models go, well, most of them don't go very far.

This was our goal in designing a thin version of a one time popular light plane, the Luscombe Silvaire.

Discounting actual drawing and scaling time, our Luscombe was extremely "kwik" to build. Once built it began to show spooky tendencies to out-perform most of our earlier profile attempts. The glide soon indicated that if we were to accomplish our intent of arm chair flying, the .049 would have to be replaced.

We hasten to add that the model will handle an .049 with the greatest of ease if you are the hiking and outdoor type.

For test purposes, we pressed our ole' trusty K&B .035 into service, leaking glo-plug and all. It was a cloudy, mild calm day when the first ROG attempts were made. Three starts later bore fruit, when, with all adjustments made and the .035 protesting the bad plug vehemently, our hero coughed and wheezed itself through a one-wheel takeoff and climbed laborously to a little less than 400 feet.

Designer used a dural mount, bent to shape, for his Cub engine. Blocks cemented to either side, faced with ply, will substitute.



All set for a bit of control-line flying, the wee profile sports two-wheel gear. Note the fixing of the bellcrank, on the side.

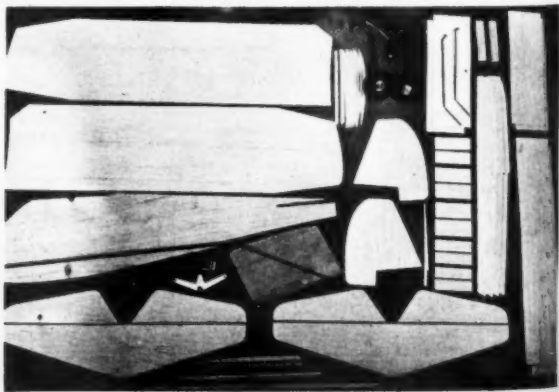
Now, according to plan, the model was then supposed to rewind itself back down and come to rest not more than 150 feet away. Why not? This is a profile model, and profile models aren't supposed to fly too well. At least very few of mine have in the past.

But this little clown hadn't been paying attention! For there, before a pair of unbelieving eyes, was beginning to vanish one cherished engine, some of Testors best balsa and a varied assortment of heterogeneous parts that, from a distance, looked somewhat like an airplane.

A few feet shy of a mile later, our hero was discovered resting unceremoniously between two furrows of plowed ground. Stifling an urge to plant it on the spot we returned to the scene of the crime and promptly changed engines.

With our equally revered K&B .020 up front it was now possible to accomplish what was originally intended; to fly from an easy chair! The rest of the afternoon was spent hand launching and then watching as the little craft wound its way up to a height of about 100 feet and then glide in almost the exact path back down and land not over 150 feet away. This was fun! Construction of the Luscombe Silvaire follows a (Continued on page 53)

Be your own prefabber! Cut out all the sheet-balsa parts before you start. Careful sanding for smoothness—got yourself a deal.







# radio control

## at the Nationals



**Well over 300 entrants in an all-week event made radio control a Nationals within a Nationals. Fancy aerobatics, pylon racing, scale jobs made real show.**

**by DORIS and ED YULKE**

RC set the pace for excitement at this year's Nationals at Willow Grove, when Vern Kroamer tripled the Russian distance record of 1½ miles by flying from Turner's Airport to the Willow Grove NAS, a distance of 4½ miles. The RC Event was scheduled to start Tuesday morning with Vern as Event Direct, so on Monday morning, when Vern and the official witnesses awoke to find an early morning fog, things looked a bit on the hopeless side. A short time after dawn, the fog cleared off and the race between a 6½ pound Piper Cub and the control car was on. With the transmitter mounted on the aft deck of a swept-wing convertible, Vern had no trouble watching the ship overhead.

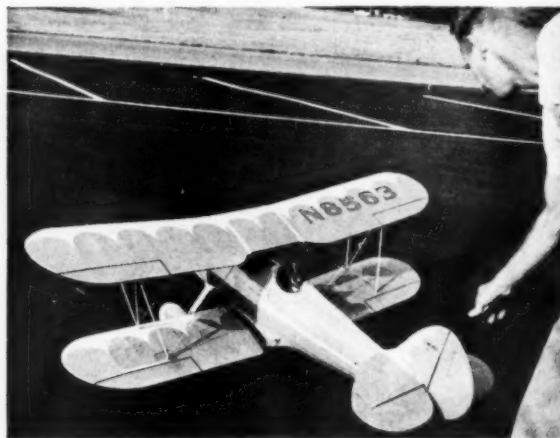


Larks nest. Pit scene, catches a couple of rudder jobs and Keith Storey's pylon racer, background, based upon Wittman's famed Bonzo.

The caravan, led by Montgomery County's Police Chief, tore across the countryside at better than 60 mph.

The fly-in-the-ointment was that the powers that be decreed that Vern should appear on an early TV program, Tuesday morning in New York City! Tuesday morning was the start of the RC Event and without Vern on the field, Norm Jamieson, his assistant, did an excellent job to get the event under way with an able assist from Leon Shulman. Howard Bonner made a flight to familiarize the judges with what they were to judge and the week's work had begun.

There were 345 entries in the radio events and 207 airplanes made 308 flights. There were less than a dozen ships on 50 mc and 465 mc to relieve the load on 27! Seventy-one entries flew in Multi, 64 in Open Rudder, only 21



Taxiing out is George Kilbey's (South Bend), 1/5th scale Waco. Every flying wire was there. Glossy, rubbed finish. Flew fine. Scale popular.



Always with an eye for those racy lines, Lew Andrews brought his X-ray powered by Fox .35. Dual proportional pulse control, ala Good.



Harold Van Horn, Canton, Ohio, out a Fox .59 in his Custom Privateer. Flippers and rudder. Nice paint job covered acres of wing area.



Getting the meet off with a bang was Vern Kroamer whose 6¼ pound Cub broke Russian distance mark with 4½ mile jump to the NAS.



Bob Dunham flew Bonner Smog Hog to victory in multi Open. Eight channels ailerons. Really snappy flying with excellent Cuban eights.



Old master, Walt Good, flew this Multi Bug to third in Open Multi with his dual proportional system. Very smooth maneuvering. Pretty.



Pappy deBolt's eight-channel biplane nosed out by ½ point, for a second in Open. Flaps, ailerons, gave approach control. K & B .35 engine.



Pylon won by Keith Storey's eight-channel racer. Keith had the idea ten years ago. Several size classes—Keith's on an Oliver .15 engine.



Checkered hat and tail surfaces to match, enabled A. B. Pinso's Smog Hog to find its master. So many entrants, one flight a day. Bad deal.

in the Intermediate class, 20 in Pylon Racing, 19 in Jr.-Sr. combined Rudder and 12 in Scale.

Reeds were everywhere, five and eight channels were commonplace. Despite the flood of reed-bank multi-channel ships, dual pulse proportional control was in there pitching with the old master, Walt Good, handling the control stick. Bob Dunham, pappy of the 3-channel Orbit outfit, was the only one who could fly as smoothly as the dual proportional jobs. Bob and his Smog Hog took first with 266.5 points, Harold deBolt with a biplane Live Wire took 2nd with 266.0 points and Walt Good with a Multi Bug was 3rd with 256.5 points. Howard Bonner, last year's Champ, came up with only 243 points for 4th place and last year's 2nd place winner, Dale Root of As-cender fame wound up with a varnished engine due to changing fuels and was out of the running.

Bob Dunham used three control sticks on the box, while Harold deBolt flew the new Bramco 8-channel, with a control box that was a beaut. Until the Nats everyone had accepted the fact that for 8-channel, you needed two control sticks, each going left-right and forward-back.

Frank Hoover of C. G. Electronics saw that they had spent a lot of time trying to figure out which stick should control ailerons, rudder, etc. Harold evidently had the same problem with Bramco's 8-channel, but put two simple double-throw switches on a control stick in a similar manner to the pots on dual proportional and came up with box with only one stick and three push-buttons. Forward is down, back is up, with the usual right-left for rudder. The trick is that when he shoves the stick in a corner, both elevator and rudder respond! Since all the channels in the world won't do a flier a

(continued on next page)





If they gave prizes for frantic repairs, C. R. Scott would have been cinch winner. Never-say-die spirit often does come through to win.

bit of good unless he can push them around by instinct, that control box represents the most important advance since they tacked three more fingers on the reed bank. Another innovation of Harold's box was a push-button under his left thumb—when pushed, it switches the side-ward motion of the control stick from rudder to ailerons, thus giving simultaneous aileron and elevator for rolls until the button is released.

By Sunday, everyone was discussing the comparison between dual pulse and 8-channel reed equipment. Dunham and deBolt used 8-channels to make 266 points, both used ailerons, but Walt Good made 256 points without ailerons. The 10-point difference between them is only 4%, which caused many of the fellows to ask "who needs ailerons?" Actually, there were many variables aside from the equipment that makes an exact comparison on points impossible. On his best flight Harold ran out of gas, finished his high point flight dead stick, both Dunham and Good (on his best) nicked props on one landing, preventing all three from obtaining points for the taxi back to the starting position.

On many flight sheets, there were more than 10-points between the two judges scoring the same flight, which is the reason for having more than one judge. Actually, the boys were quick to find out that the judges were allowing more points for nice, wide, rounded rolls than they were for tight axial rolls. Even without ailerons, Walt Good had to open up his rolls to get maximum points!

Dunham was doing consecutive loops on one flight with



Dale Root's Ascender new sports ailerons and eight-channel, too. Magnetic nose-wheel brake a dilly. On straight-away ship does 60.

the ship "off wind," holding them true with ailerons. Perhaps the prettiest maneuver to watch was his Cuban Eight. Here the ailerons on the extra channels came into play and the rollouts just past the top of each half-loop were as smooth as silk, but then Good accomplished the same maneuver on an early flight by rolling up level a little further around the half-loop than the aileron boys, but without the ailerons. On his high point flight, Walt hit rudder too early in the first half of the Cuban Eight, at which point he went on to the next maneuver.

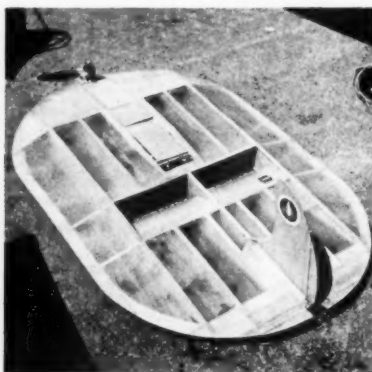
The difference of opinion as to whether the ailerons should be short, with wide chord and differential action (outboard aileron in a turn goes down less than inboard one comes up) or whether they should simply be half to two-thirds the semi-span, narrow, with no differential action still seems to be unsettled. Dunham had fairly long ailerons, Harold deBolt had short, squat ones way out at the tip of the upper wing . . . and these boys had  $\frac{1}{2}$  point between them!

It was fascinating to watch the true spins these ships went into (and came out of!), with the ships twisting like a small tornado. Some of these were done pretty close to the ground and had the bystanders worried. The AMA rules require that the spins start from a full stalled position, but somewhere along the line, the judges eliminated the need for this approach. Most spins were just "kicked in" and brethern, they kicked!

In the evenings, those who were out at Vern Kroamer's airport 17 miles from the NAS (continued on page 44)



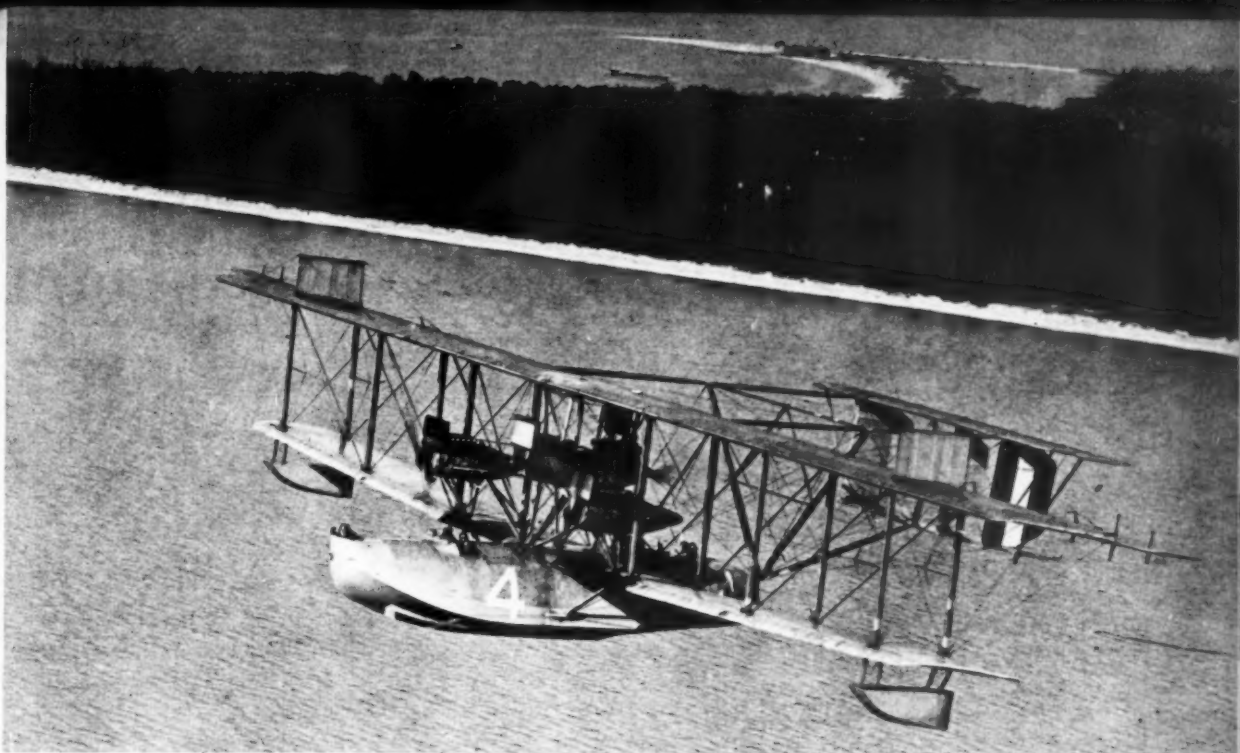
Flying his own equipment, Leo Galin, Chicago, a Spitfire-powered low wing. Flippers, rudder.



Which side is up? When Fran McElwee's saucer is flying, Fran wonders. Is from outer space.



Shielded enclosure enabled radio check without interference. But at least one rascal got away!



Only 16 years after the Wright Brothers first flight, the wood-and-wire NC-4's chancy flight over the ocean was truly epic adventure.

# the First Transatlantic Flight

**PART TWO . . . On May 8, 1919 three big Curtiss flying boats taxied out from Rockaway Beach, N.Y. Twelve days later, after stops, the N.C.4 had conquered the ocean.**

by **ROBERT C. HARE**

► Signing of the Armistice on November 11, 1918, brought about an abrupt change in the destiny of the N. C. flying boat series. With the immediate military objective of the giant aircraft eliminated, the Navy was quick to organize its transatlantic flight. Responsibility for the project was placed in the hands of (then) Commander John H. Towers, USN, pioneer Naval aviator who served with distinction in both World Wars and in the intervening peacetime years.

An outstanding leader with proven organizational abilities, Commander Towers set about planning the myriad details for the flight. Plane commanders and crews had to be selected; the route had to be laid out; shore parties, mechanical crews and navigational aids had to be established at points along the route. Arrangements were made to have Navy salvage and rescue ships established 50 miles apart over the entire route. The co-ordination of such a project involving hundreds of men and millions of dollars worth of equipment was no small task.

Meanwhile, the Curtiss plant at Garden City, Long Island, buzzed with activity as the N. C. 2, 3 and 4 were put into construction. The three huge aircraft literally filled the plant—never before in the United States had such an ambitious production task been undertaken with such outsized aircraft.

First of the new ships to be completed, the N. C. 2, was trucked to Rockaway Beach, N. Y., for final assembly. Rockaway was designated by the Navy as the official starting point for the flight. It was an established Naval Air Station that had performed effectively in coastal patrol operations during the War. N. C. 2. made her first flight on April 12, 1919. Although she had the same wing area as the N. C. 1.—2,380 sq. ft.—she was equipped with four Liberty engines instead of three, and was designed for a gross weight of 28,500 pounds instead of approximately 22,000 pounds assigned the N. C. 1.

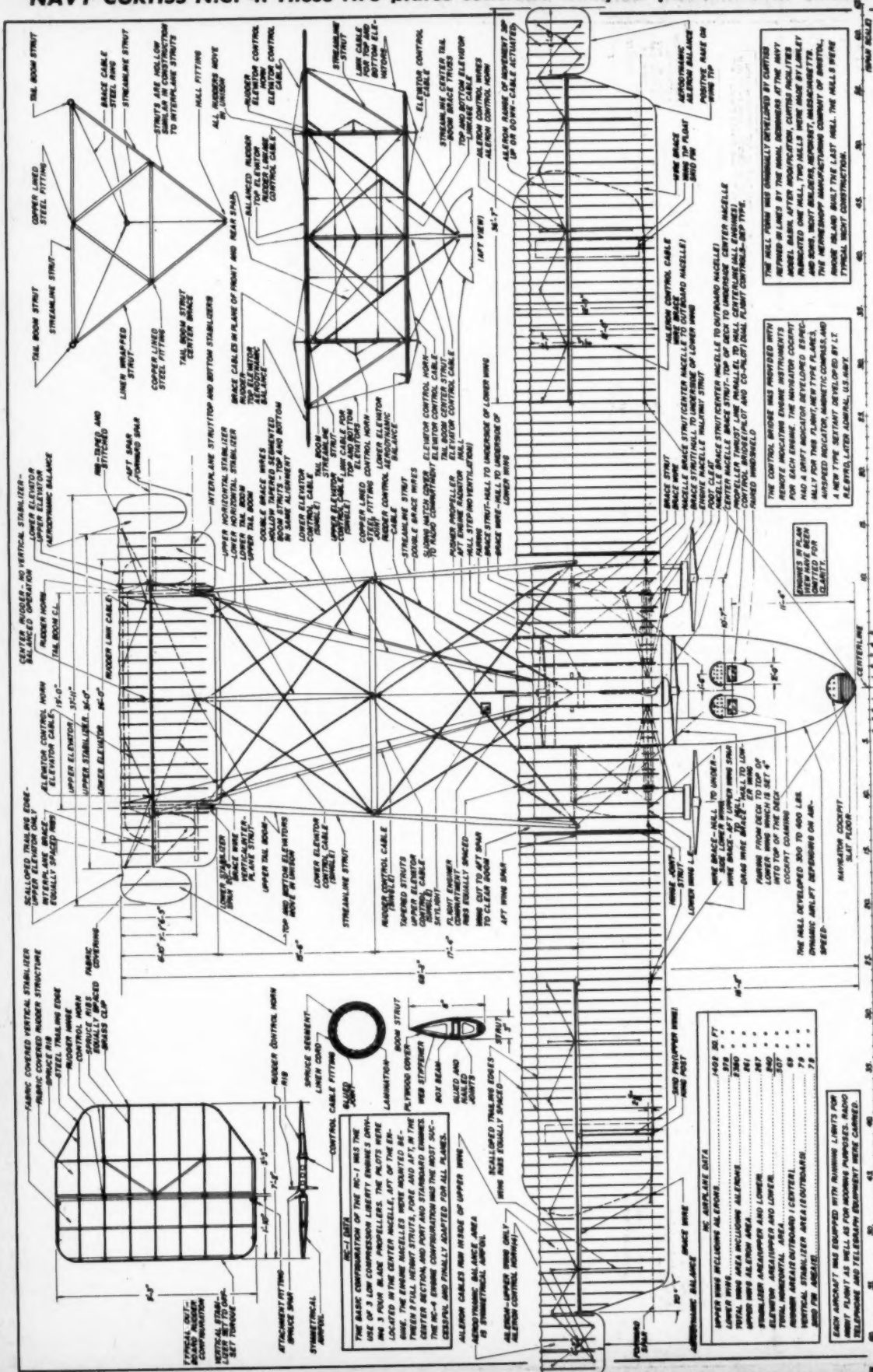
In "light" condition, the N. C. 2 took off after a 35-second run, some seven seconds better than the N. C. 1. The four engines of the N. C. 2 were arranged in tandem sets—two tractors and two pushers. A pilot nacelle was located over the hull in the N. C. 2, replacing the central engine of the N. C. 1.

Despite the performance improvement represented by the four-engined N. C. 2, Curtiss and Navy engineers had some misgivings regarding the efficiency of the engine arrangement. What would happen, they questioned, if one of the tandem engine sets were to fail during flight? There was the fear that the offset thrust under such conditions would make the aircraft unman-

(Continued on page 56)

PLANS ON NEXT TWO PAGES

**NAVY CURTISS N.C. 4.** These two plates conclude two-part presentation of one of the



THE HELL POND WAS GRADUALLY DEVELOPED BY CURTIS AFTER HE LOSTS BY THE NAVAL DEMINERS AT THE NAVY MOORE BASIN. AFTER MODIFICATION, CURTIS FACILITIES PRODUCED ONE HELL, TWO HELLS WERE MADE BY LAMLEY AND SONS, MOOT BELLS, REPERTORY, MEDICALS BY THE. THE REPERTORY MANUFACTURING COMPANY OF BRISTOL, MAINE ISLAND BUILT THE LAST HELL. THE HELLS WERE TYPICAL ISLAND CONSTRUCTION.

THE CONTROL BRIDGE WAS PROVIDED WITH REMOTE INDICATING ENGINE INSTRUMENTS FOR EACH ENGINE. THE NAVIGATOR COCKPIT HAD A GYRO INDICATOR DEVELOPED SPECIALLY FOR THIS PLANT, NEW TYPE PLANES, AN AIRSPEED INDICATOR, MAGNETIC COMPASS, AND A NEW TYPE SEXTANT DEVELOPED BY LT. R.E. BYRD, LATER ADMIRAL, U.S. NAVY.

ENGINES IN PLAN  
NEW HAVE BEEN  
OMITTED FOR  
CLARITY.

5'-0"

NOZZLE COCKPIT SILE FLOR

THE WALL DEVELOPED 360 TO 400 LBS. DYNAMIC AIRLIFT DEPENDING ON AIR-SPEED

COCKPIT COAMING

PANELS FROM DECK TO TOP OF COCKPIT COAMING TO BE LIFTED UP INTO TOP OF THE ENCE

STABILIZER AIRSUPPLIER AND LOWER		287
ELEVATOR AIRSUPPLIER AND LOWER		290
WING AND WING INBOARD		360
TOTAL HORIZONTAL AREA.....	CENTRAL	500
ARMED AREAS OUTSIDE.....		79
HEIGHTER AREA & SOUTHPARTS		79
<b>SUM FOR AREA</b>		<b>78</b>

THIS AIRCRAFT WAS EQUIPPED WITH RUNNING LIGHTS FOR EACH FLIGHT AS WELL AS FOR MOORING PURPOSES. RADIO

NO PROVISION WAS MADE FOR THE INSTALLATION OF BOMB RACKS OR MACHINE GUNS ON MC BOATY.

PROGRAM BY WILLIAM L. RYAN FOR SOCIETY AGAINST ABUSE (NSA)

NAVY-CURTIS NC-4

QUEST NO 33





# NAVY-CURTIS NC-4

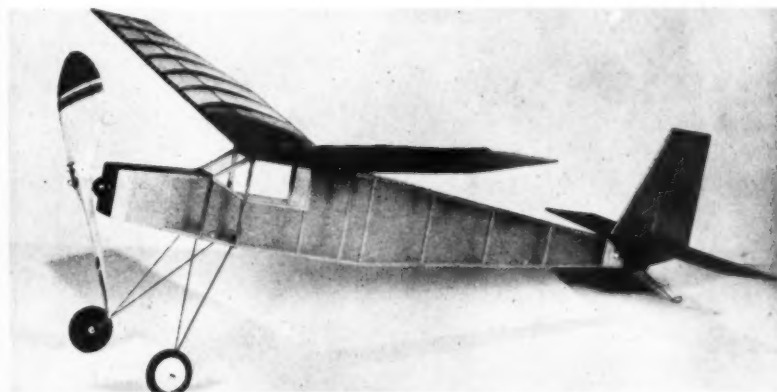
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JUNE 1997 NO. 41



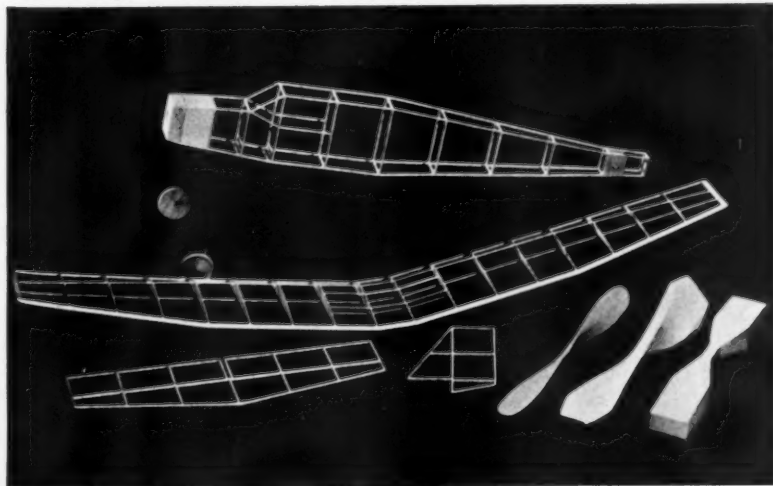


Light construction, neat covering, and a real prop make possible flights of two or three minutes and more. One went for 11—beware!



No frills, no dead-weight features. Stretch wind that rubber by hand drill and you'll get high flights. Partially wound by hand and you easily can keep it on the flying field. A good sport.

Fuselage sides, wing panels, tail pieces made flat on bench. You know: pins, balsa knife, cement. Finished sides joined at cabin, on to the races. Carved prop, or blank, center. Try hobby shop.



# the Zyphyr

by SHERMAN GILLESPIE

**Paw called the fuselage job a "commercial." But stick-and-paper rubber models did really fly. Build this one and check up on the old boy.**

► The Zyphyr is an inexpensive sport model that is easy to build and simple to adjust. It is a consistent flier that can do up to 40 seconds handwound in cold air. Times of over one minute are common in warm air with fine flights of 2:33, 3:14, and 3:17 recorded.

Best time during tests was a beautiful 11:23 out-of-sight. When last seen the ship was soaring high in a thermal accompanied by six curious seagulls! (The seagulls were not recovered.)

Study the plans, photos and instructions thoroughly. Careful selection of materials and good workmanship are important in keeping the weight down. Weight of the model ready to fly should not exceed 2.5 ounces for best performance.

**FUSELAGE:** Cover the plans with wax paper to protect them from cement. Choose hard, (Continued on page 50)



# Let's Get STARTED

By I. N. STRUCTOR

**You, too, can make real flying models. All it takes is right crate. Here's few to try!**



Put yourself in this fellow's boots. Slick looking model and does it go! Gliders, rubber jobs, as well as gassies are fun to build.

**EDITOR'S NOTE**—Because some good flying models and kits, simple-to-build at low cost, can be found at any live hobby shop, MAN has encouraged one of the better known old timers to report on items that worked for him and his boys. He'll be rambling along in future months and will come up with lots of pleasant surprises. If you have problems, old "I.N." will discuss those of greatest general interest. His spies are checking up on many items that will work for you. Maybe you, too, have dope for him. Tell us what you find good! Experts—look out!

In our family of six boys we've had a perennial beginner's problem. In fact, you might call us a kind of Do-and-Don't Testing Laboratory. We've made all the mistakes. And we've had lots of good luck, though there is not a contest winner among us. Like most hobbyists, we just want to build and fly models. One shining fact stands out—anybody can fly a model airplane. If.

Half the battle for the newcomer is selecting the right model to build. If that first model works out, he will build more. If it flops, he may or may not build another. The more flops, the more likely even the most determined chap is apt to call it quits. Yet, almost invariably, the new customer gets off on the wrong foot. It may be his own fault. Or the dealer's. Or both. For instance:

Johnny Smith is 12 years old. He loves airplanes. So he wants a flying model. Naturally, the model must look real. It must have a gas engine. It is built up of many wooden parts, cemented together, covered with paper and dope. This Globebuster P-121 can be built by an experienced modeler, and an expert can make it fly without caving in the nose on the first hop, or splattering pieces of wood all over the field, but Johnny is sunk. Looking for help, Johnny discovers that Pa is not superman. Ma goes into a tizzy about the balsa chips in the kitchen for three days straight. So Pa says, don't ever get one of the confounded things again! And, unless Johnny is a budding Lindbergh, he's not going to waste six weeks allowance again. When he finally gets tired of sticking together the clever plastic kits, he's through as a modeler, and a customer.

If, after making his plastic models, Johnny had begun with a simple glider and worked his way up step by step to the "glamor" projects, the story most probably would have had a happy ending. Aw, who wants to make a glider? Why bother with "kid stuff." Give me that fighter job! Sure, it's tough to get Johnny to begin where he should. Nor does the average dealer believe in the mighty-oaks-from-little-acorns stuff. And you can't really blame him, for the hobby business is run these days on a dollar and cents basis like a grocery store and the hobby shop is a store.

What a fellow should begin with depends on his age, the field he has to fly in (if control line or free flight), whether he can expect help and guidance from others who know about models, and so on. There is no ideal beginner's model that covers every need. The industry does produce, however, some model kit that fits any need or progressing skill. Now, let it be understood that what follows is not an endorsement of a particular model or manufacturer. Chance led to gainful experiences with these particular fliers and kits, but the dealer can recommend counterparts in various makes, sometimes a half dozen or more alternatives.

Gliders and ROG's make an excellent introduction to the hobby. By ROG is meant any model that rises-off-ground. But usually, an ROG (Continued on page 40)

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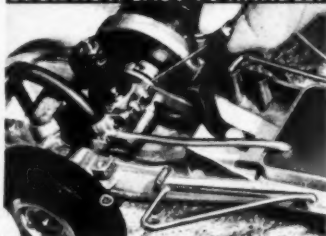
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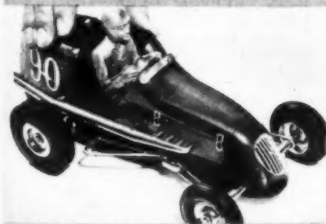
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The All-New  
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**LOOK HOW EASY TO HANDLE!**



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**Completely assembled and ready to run!**

**ALL-NEW  
CENTRIFUGAL CLUTCH**  
for fully-automatic  
launching!

**ALL-NEW PLANETARY DRIVE**  
(automobile-type)  
for smooth, efficient  
transmission of power!

**AUTHENTIC IN  
EVERY DETAIL!**  
Steering Wheel,  
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shield, Hand-Pump,  
Outside Brake,  
Exhaust Stack... all  
to exact scale of  
actual race car!  
PLUS All-Aluminum  
Body and Chassis,  
Treaded Rubber Tires,  
and Molded-Plastic  
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assembled and  
ready to run!

**ALL-NEW  
.049 "MOTORJET"  
POWER PLANT!**  
Same exhaust tone  
of a real racer!  
Completely enclosed  
and out of sight.

**ALL-NEW AUTOMATIC  
"PULL" STARTER**  
for effortless, sure-fire starting!

Kit contains completely-assembled  
"Motorjet" racer, driver, bridle,  
swivel post, hook-up wire, wrench,  
AA fuel and pouring spout, extra  
KS-5 Glo-Plug... everything (except  
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maintenance!

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## T-12 Tone Transmitter

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G. F. CHINN

# FOREIGN NOTES

A monthly world-wide round-up of technical developments, designs, significant industrial products.

## England

► The idea of an electrically-powered aircraft is not new, but when Lt. Col. H. J. Taplin, well-known British RC exponent, flew an electric radio-controlled model in England recently, this was, as far as we are aware, the world's first observed flight by a true electrically powered airplane.

Secret of the Taplin model is in the storage battery: twenty Vanner H.105 1 1/2 ampere-hour silver-zinc cells weighing only 22 ounces. A 24-volt surplus aircraft motor is used, drawing eight amps, so that the maximum flight time under power is in the region of ten minutes. Five extra cells are also carried to give an emergency boost to 30-volts for take-off.

The model itself is quite a veteran, being, in fact, Col. Taplin's original prototype 90-inch span Radio Queen, now (if memory serves us correctly) nearly nine years old. This ship has had a variety of equipment and was last fitted with a .15 cu. in. Diesel and three-channel reed equipment, the weight then being six lbs. The electric conversion has raised this to eight lbs., but with a measured increase in static thrust of over 30 percent, so that the actual power-loading is about the same. The three-reed radio equipment is retained and in addition to rudder control, this provides switching of the cells to give fast and slow on the motor.

The success of this experiment raises the question: "Is there any future in electric RC aircraft?" It is evident that even the remarkable performance of the silver-zinc batteries does not eliminate the main disadvantage of electric power: its relatively poor power-weight ratio, as compared with a gas engine, (a good .35, for example, gives at least twice as much for a quarter of the weight) but, for a scale or sport type model, electric power certainly has possibilities. A smooth, constant output and easy speed control by series-parallel switching of various combinations of cell banks, are obvious advantages. There remains the question of battery cost which is definitely high: about £30 (\$84) in the case of Col. Taplin's pioneer experiment.

## West Germany

As usual, the annual USAFE Model Airplane Championships were held at Wiesbaden, West Germany. The four-day meet was attended by USAF contestants from all over Europe and the Mediterranean area and by a contingent of RAF modelers. Leading German model fliers were also present, including RC maestro Karl-Heinz Stegmeier with his famous eight-channel ship. Another remarkable German RC job was Bernhardt's scale type low-wing with Stegmeier eight-channel pneumatic control on rudder, motor, elevator and ailerons. This model flew well: fast and stable with good wind penetration.

Among the place winners we were glad to note our good friend S/Sgt. "Stew" Stewart, who took first in Class A free-flight (Oliver Tiger Mk. III Diesel .15 powered Ramrod) and second in Half-A free-flight.

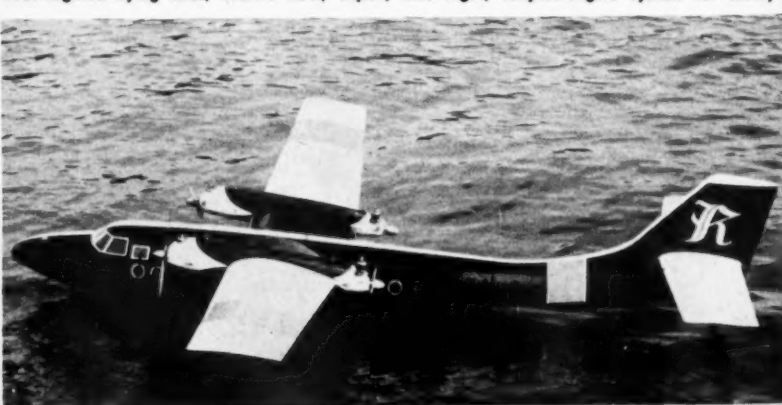
The West German Nationals, held, as last year, at Kassel-Waldau, are in full swing as this is being written and we hope to bring you a brief report on the meet next month.

## Belgium

One of the big events in European control-line flying is the annual Belgian Criterium d'Europe meet. This year, held at Etterbeek, on the outskirts of Brussels, there were entries from eleven nations: Austria, Belgium, Czechoslovakia, Germany, Great Britain, Hungary, Holland, Italy, Spain, Sweden and Switzerland. Events comprised international class speed and team-racing (.15 cu. in. motors), jet-speed, stunt and combat. Overall team points for the Grand Prix du Criterium d'Europe gave a surprise win (but nonetheless deserved) to Belgium by virtue of top places in aerobatics, team-racing and combat. Spain was second, one point behind, with Britain and Hungary tying for third position.

The meet was highlighted by a number of noteworthy performances. Once again the Czechs proved their mettle in speed. Sladky recording a clear win, with 209 km./hr. (129.9 mph), over Britain's Gibbs

Four-engined flying boat, Minoru Soto, Japan, free flight; coupled-engine system for safety.







Scoreboard, Coppa Supertigre meet, Italy. Team-race silhouettes travel up show progress.

(125.5 mph) and compatriot Smejkal (120.5 mph), Battle of Spain taking fourth, five mph behind. Notable absentees were the Italians, whose presence would almost certainly have resulted in a reshuffle of these places. Sladky's motor was a further development of the State sponsored MVVS racing .15 with disk rotary induction and was undoubtedly approaching 20,000 rpm in the air on the prop used.

The stunt event resulted in a win for Stouffs of Belgium flying a Fox .35 powered Palmer Thunderbird. Motors used here were a very mixed bag. Second place went to Rieger of Germany who used a British E.D. .15 Diesel. Third-place man Breukink of Holland had an Allen-Mercury .21 Diesel and fourth man Diemer of Germany used a Japanese O.S. Max .35. In fifth and sixth places were Egervary of Hungary and Garcia of Spain using, respectively, a McCoy .36 and a Miles .29 Diesel.

The team-racing final was one of the closest on record with another stout effort by Henry Stouffs who won by one second from Gorgocena of Spain. Nearly all the racers were Oliver tiger powered, the one heat-winning exception being Contini's Italian Testa Rossa Barbin B-40 roller-bearing Diesel. Fastest model and fastest heat time was by Bassett of Great Britain (Oliver Tiger) who completed the 10 kilometers (6.214 miles) at a record average, including pit stops, of 74.1 mph.

#### Monaco

The FAI International Hydro Model Contest held, as usual, at Monaco, was this year attended by modelers from six countries. The meet, which is divided into rubber and gas free-flight classes, resulted in victories for Italy in both categories and the appearance of rubber-driven ships with retractable front pontoon.

In the rubber class, the noted Italian Wakefield fliers, Fea and Sadorin, took first and second, followed by their fellow countryman Davini, Novaro of Monaco and Bluhm of France. In the gas section, winner Piazzoli set up the highest total of the day and had nearly 3½ minutes' lead over second man Morscheck of Germany. Also competing were Switzerland and Yugoslavia.

#### Bolivia

An exceedingly interesting letter comes

(Continued on page 58)



# POLKS

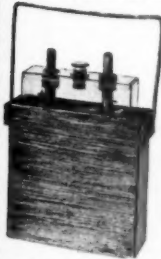
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**TYPE 26G.** Specifically designed as a glow-plug engine starting battery. Comes complete with wooden carrying case. 2 Volts. 6 ampere hour capacity. 4 1/4" high, 3 1/4" wide, 1" thick. **\$3.75**

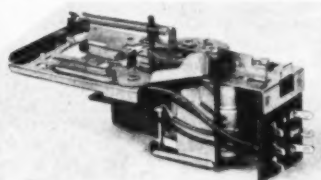


ADD 50¢ SHIPPING CHARGES ON ALL BATTERY PRICES

**TYPE 64.** Designed to replace the surplus NTG Well Cell. 6 Volts, 4 ampere hour capacity. Measures 2 1/4" high, 3 1/2" wide, 1 1/4" thick. Replace NTG's with factory fresh reliable power. **\$4.75**

TYPE 26. 2V., 6 Amp Hr. Cap. (4 1/4" x 2 1/4" x 1 1/4") **\$3.00**  
TYPE 41. 4 V., 1.5 Amp Hr. Cap. (1 1/2" x 1 1/2" x 1 1/2") **\$1.65**  
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Designed by Ed Lorenz, the MOPA is the most advanced transmitter available. Features: printed circuit chassis • 27½ frequency • high tolerance components • extended range design • "tuning eye" for fast checking • comes with instructions. **\$14.95**  
Ready-to-Use (less bat.) **\$19.95**



### ARISTO MULTI-TESTER

Designed for R/C Enthusiasts! Full 2 1/2" Meter Face. A sturdy built, testing unit covering EVERY R/C need ±2%. This is not a "reworked" surplus test meter. • All M.A. readings to 1000 M.A. • Moving coil type meter • 100 ohms to 10K • All DC • readings to 200 Volts • Zero adjusting screw • Ohms adjust • Black and Red test leads, grade sup. Hi-impact black plus case. **\$14.95**



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These GIANT Kits are chock full of EXTRAS!

They come with full size—"build-on-em" plans—with many perspective sketches for easy, accurate assembly. All structural parts are of strong plywoods and hardwoods are clearly cut out, identified and precisely finished... ready-to-assemble. Balsa plumbing is included. Also included: semi-pneumatic wheels, fully formed landing gear, formed bubble canopies, gas tanks, props and hardware. Aluminum cowls and shock absorbing gear supplied where needed. Prices are — less engines.

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A terrific d.c. battery operated motor with amazing power and low battery drain. Fitted with heavy duty replaceable carbon brushes. Enclosed in attractive plastic case, measures 2 1/4" overall, 2 1/4" wide, 1 1/2" high. Ready-mounted, operates on 1/2 V. to 8 V. DC. Ideal for many uses.

No. 01 \$ .69 No. 0 \$1.00 No. 1 \$1.25  
No. 15 \$1.35 No. 2 \$1.50 No. 3 \$2.00  
No. 4 \$2.50



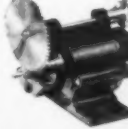
### ARISTO-REV MOTORS

As described by McIntee & Lorenz. Over-all length 2 1/4". Ball Bearings. Max. Dia. 1". Wgt. 2 1/4 oz. Carbon brushes, 4800 rpm and power on 4 1/2 V., 1/000 Amp. drain. App. 40 hrs. on 2 Pen cells.

No. 1 2.95 \*No. 4 2.50  
No. 2 3.50 \*No. 5 1.00  
\*Not ball bearing. With mounting bases.

### MIGHTY-MIDGET Electric Motor

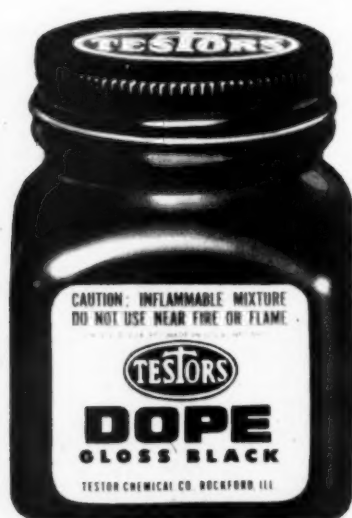
Only 1 1/4" high, this amazing little power plant consumes less current than a flash-light bulb. Precision-starting, reversible and precision built, it has an armature speed of 4000-6000 rpm, counter shaft speed of 650-100 rpm. Comes complete with replaceable carbon brushes, 7 to 1 reduction gear, shaft with pulley etc. A standard motor for use on 3-6 V. DC. Ideal for general, industrial and lab use. Complete. **\$2.95**



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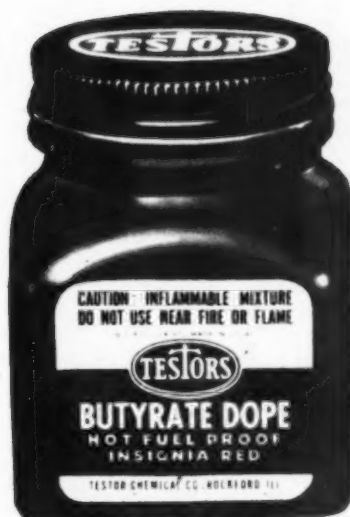
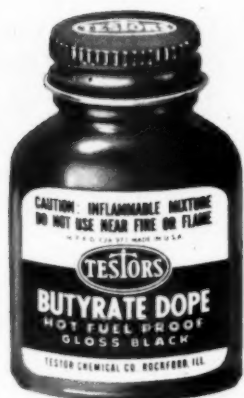
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## The 1957 Nationals

(Continued from page 16)

went on to win High Point Stunt in the fly-off against Arthur Pawloski (Sen. Winner) and Bob Winks (Jun. Winner)—flying his Nobler, of course. We noticed that George holds his handle horizontal with the ground most of the time. He flies clockwise (way he originally learned—he's not left handed)—but is quite at home flying another modelers ship. Stunt entries were outstanding for their realistic appearance this year. Several had wheelpans and others were semi-scale replicas of Army or Navy planes.

Proto Speed attracted a big entry and existing AMA records were beaten in Junior, Senior and Open categories. Many good looking models. One of the best, Gene Kessler's McCoy 29 powered Fibreglass original, had 1/32" thick fuselage sides and the balsa wings were Fiberglass covered, the stab silked. Thirty fuselages made from the mold to date. In Team Racing (no age divisions) the chequered flag fell for Bob Heminway (time 8:27.5) Fox 29 original. Bob placed 2nd at the '56 Nats, won Mirror Meet in '55 and he told us that this was his 30th T/R win in the last three years.

Combat was fiercer than ever this year and the area around the circles was soon littered with bits of chopped up models—as well as the streamers. Victor in Open Combat—after losing his outer wing panel in the final fight—was Joe Kastetter, flying an original design of conventional layout with a 9 1/2" x 36" wing. Carrier attracted the usual crowds of spectators around the Navy's "Small Fry"—this year's Open Winner being Stephen Babin of Ohio.

Big entries in all free flight events. Nordic A.2 still very popular and the new A.1 class seems to be catching on well. In F/F gas, the once unusual VTO is now at least as popular as the old conventional landing gear ROG take-off. Plenty of interest in the PAA-Load categories—including the Jet and Junior Jet events, with '56 Winner Brent Hawkins taking first in the latter again this year. Wakefield and Unlimited Rubber show no signs of slackening interest—biggest model this year being George Perryman's seven-foot Kluge, with which he placed 5th in Open. In Helicopter, Parnell Schoenky won as usual (174.12 points) with his twin Jetex 350 job and the same Atwood .049 powered entry he has flown and won with at every Nats, since the first Helicopter event in '53.

At the cathedral-like Lakehurst blimp hanger, the indoor flying conditions were pretty good as regards lift. Most of the ever-faithful Indoor enthusiasts were there—either flying or watching—including Carl Goldberg, Bill Tyler, John Zaic and Joe Bilgri—the latter winning Indoor Stick with 32:53.8—not too far short of the existing record. The high humidity, gloomy lighting and slow-motion movements of both models and people gave us an impression that the entire flying session was taking place under water. It's the kind of atmosphere where everyone whispers—and it never seems to change from year to year.

There were a good sprinkling of girl contestants this year—with one of them, Suzanna Allen of Valley Stream, N.Y., taking first in Junior F/F A Gas with 13.43.9. Not only do the girls brighten up the scenery, they also provide the incentive for some of the boys to put on a clean T shirt and perhaps even try to shave before the prize giving!

Carl Goldberg's son Robbie, took 5th in

Junior F/F A Gas with Dad's new Blazer kit design. Another chip off the old block was Skeeter, Cal Smith's son, who took 4th in Junior F/F scale with a Torp. 19 powered D-8 almost as big as himself. It wouldn't be like the Nats without C. O. Wright, who can still show the youngsters plenty about contest flying at 62. C. O. collected a 5th with his T-Craft (plans were in MAN) and a 4th in International PAA-Load.

One unchanging feature of the Nats is the Work Hanger. Table after table of modelers repairing, altering and even building new models from scratch. We came across a Berkeley Custom Privateer (the BIG one!) on the first day—which just had the bare fuselage framework completed. We wonder if the builder ever finished it and flew it at the Nats—or is he still there working away in a now silent and deserted hanger?

Johnny Brodbeck chalked up his tenth year of operating the free K & B Allyn Engine Repair Service—keeping several hundred engines in circulation that had been damaged during the contest. Johnny takes up to ten minutes to repair an engine—with work ranging from minor things like replacing a needle valve or rebuilding an entire motor. This service was not confined to K & B's either—any engine brought along was cheerfully accepted for repair.

So many memorable modelers at the Nats. John S. Quimby for instance, who put on a Sabre Dance demonstration with his Torp. 29 powered Ringmaster. Unusual was the fact that he didn't use motor control—just wagged the elevator to kill speed and keep the model hanging on its prop. John told us that he served as a missionary in Japan until recently, where he flew models with the Tachikawa Dragon Flies. Then there was Lester Grogan of Dallas, who designs and builds the prettiest speed ships. A wheel chair prevents his flying other than sport C/L, but his proxy flown 1/2A speed entry collected 2nd in Open. Hardy Lewis, Junior Nats Champ also used one of Lester's designs to win in Junior 1/2A Speed.

We must not forget to mention the Model Recovery Control Center, operated by members of the Phil-Mont Mobile Radio Club, which rescued dozens of flyaway models. Fifteen radio-equipped cars were used during the week-long Nats and on busy days, as many as 40-50 models were rescued—one ship being tracked down 12 miles away from Willow Grove. CAP planes also co-operated in the recovery service. Fine effort by all concerned.

The Blue Angels put on their usual polished display of formation aerobatics flying on the closing Saturday and Sunday afternoons—and 19 year old Ann McMennamin was chosen as Miss Model Aviation of the '57 Nationals. Since the collection of Tropics was the biggest ever awarded at a model contest, the prize giving went on until well after midnight. Finally, thanks must go to all those hard working people—the Navy personnel and the AMA officials—without whose efforts this wonderful Nats would never have been possible.

## Sure Fun

(Continued from page 13)

instructions for cutting the slots in your engine exhaust for the exhaust-slide control as well as detailed control hook-up instructions. The manufacturer will install the slide-control on your engine for a nominal fee if you don't want to do it yourself. You can also use a Roto-Valve or Bramco

(Continued on page 38)

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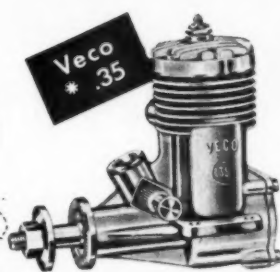
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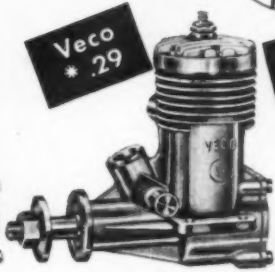
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WINNER 1955 NATIONAL Open & Jr. Stunt. Calif. Stunt Champion. Designed by Bob Palmer. For Engines .19 to .35. Wing span 54".



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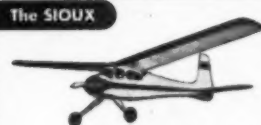
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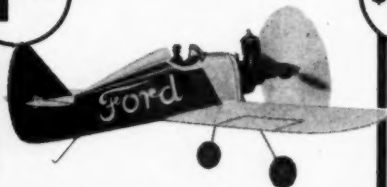


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"ZIG-ZAG"

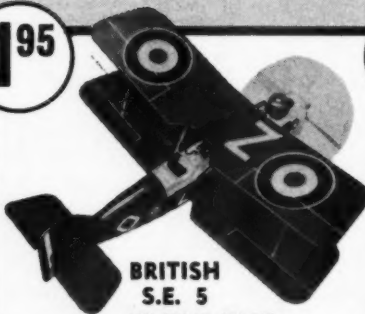
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Famous Douglas jet bomber that  
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Big value deluxe profile trainer  
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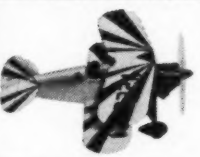
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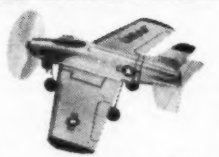
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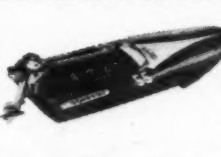
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SPAN: 16" For .035 to .074 Eng.  
America's first supersonic fighter!  
Fly-it-yourself . . . U-CONTROL!  
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Genuine mahogany runner hull. A  
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Highly colorful . . . terrific ac-  
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Alive with action! Streamlined  
speedster that's E-Z to assemble,  
fun to race. All prefabricated.



**BEECHCRAFT "17" \$2.95**  
SPAN: 16" For .045 to .099 Eng.  
U-Control, prefabricated model has  
carved halsa fuselage formed halsa  
wings, metal cow, etc., etc.



**RED DEVIL \$1.69**  
SPAN: 18" For .035 to .074 Eng.  
Ultra sleek, very colorful U-Con-  
trol model. All prefabricated parts,  
carved fuselage, etc.



**Piper Tri-Pacer \$1.95**  
SPAN: 18" For .039 to .074 Eng.  
Scale U-Control flyer with a tri-  
cycle landing gear for safe land-  
ings. Prefab, carved fuselage.



**AMERICAN BOY \$1.29**  
SPAN: 18" For .020 to .074 Eng.  
Extremely popular U-Control train-  
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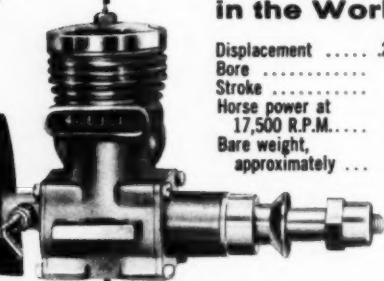
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Guaranteed  
Than Any Engine  
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Stroke ..... .594"  
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approximately ... 6½ oz.

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Compare the Dooling #29 engine at your dealers with any other—and especially read our detail sheet of exclusive features which he will gladly give you free. You will readily see why aircraft engineers rate the Dooling #29 the ultimate in engineering design and craftsmanship—and why model builders who demand the best buy Dooling.

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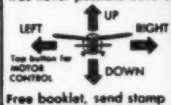
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All 4 Radio Control  
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a \$13.92 value. All 4  
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Throttle linked with the Flight Control unit for motor speed variation.

Bolt your engine in place (with offset thrust per the plans) before bending the 1/16" piano wire exhaust and elevator pushrods. Cut a notch in the firewall to allow pushrod travel. Bind pushrods with soft wire to the control-unit attachment wires and check elevator and exhaust control action before soldering permanently. The closed position of my exhaust slide leaves a 1/16" triangular exhaust port opening for a slow engine idle speed with the K & B .32. The port opening will vary with different engines. If desired, you may adjust the slide to close completely so that you may stop the engine at will. Be sure that the exhaust port slide opens completely when the two elevator control wires are both pulled at the same time. If you like you may bend a small V in the exhaust pushrod to allow pushrod length adjustment.

You are now ready to cover the top of the nose with 3/32" sheet balsa, wetting the outside for easier curving over the formers. The outside edges of the stringers are notched 3/32" to allow the sheeting to come in contact with Former #4. The ¼" soft sheet cabin top is cemented in place and is rounded off after the 3/32" scrap window top outline pieces are cemented in place.

The removable gas tank tray is built up as a separate unit. The tank is held in place with rubber bands looped over the tank tray's 3/16" hardwood dowel. Slide the tray (with tank) into position from the bottom of the nose and center the tank with the needle valve body for smooth inverted operation. Make sure the tank does not come in contact with the exhaust slide pushrod. I used a Kap-Pak No. T-11 stunt tank. After you have found the proper tank tray position in the nose of your ship, you can cement the 3/16" square keys in place per the plans. In the event of fuel system troubles at the flying field you simply remove the gear hatch, disconnect the fuel line, and slide the tank tray unit out of your ship. Tank repairs can then be made, or a spare tank installed, in a matter of minutes without going back to the workbench. Tank air-tube holes should be drilled in the top sheeting and the hatch to allow the tank filler and air tubes to extend outside the ship. Flexible fuel line tubing can be slipped over the tank vent tubes for extending outside the nose. The removable feature of the tank tray unit necessitates a radial engine mounting. If you are using beam motor mounts, the tank mounting formers can be notched for the motor mounts and cemented in place for a permanent tank mounting.

The pontoons are assembled upside down. Pin the ¼" top sheets to the workbench, then cement the formers in their respective positions. When dry, cement the keel and the ½" x 3/16" crossbrace reinforcements in place. Cement and pin the sides in position and let dry while the assemblies are still pinned to the workbench. The two pontoon crossbraces can be fashioned from basswood or yardstick material. Round the edges of these braces before sliding them through the pontoons and cementing in place. Pin upside down on the workbench to dry. Be sure that the pontoon centerlines are parallel to each other. Block-sand the bottoms of the pontoons for proper contact of the bottom sheeting. Before covering the bottoms, a couple of coats of clear dope should be applied to the interior of the pontoons. Clear dope the inside of the bottom sheeting before cementing in place, applying water on the outside of the wood from the step forward to allow easier bending.



### NORTH AMERICAN NAVION

Span 42" Length 25 1/2"  
Kit S-9  
\$3.50



### LOCKHEED STARFIRE

Span 40" Length 26"  
Kit S-10 \$3.50

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by *Sterling* models

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They're the last word in control line stunt flying thrills! The new North American Navion, and the new Lockheed Starfire . . . both by Sterling . . . and both designed by Matt Kania, world's foremost model designer and flyer! These planes will execute the entire stunt pattern with amazing snap and precision! They'll do everything in the book — and then some! Completely prefabricated and a cinch to build! An unbeatable combination — Sterling and Kania . . . and YOU to fly 'em! Ask your dealer!

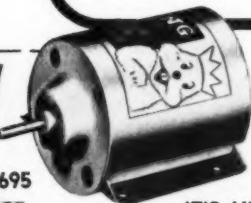
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Enclosed find \$ . . . . . I hereby agree  
to fly my models in a safe and sane manner  
as prescribed by the A.M.A., and apply for  
full membership privileges for the year 1957.

Name . . . . .

Address . . . . .

City . . . . . Zone . . . . . State . . . . .

Date of Birth . . . . .

Signed . . . . .

The landing gear struts are J-bolted to the removable hatch 1/4" plywood flooring after the hatch has been rounded to shape on the bottom to blend in with the lines of the fuselage. After the J-bolt nuts are screwed on, fill the holes over them with plastic balsa. Don't forget to cement the 3/16" square hard balsa keys to the hatch floor to maintain proper hatch alignment on the fuselage. Also note that the pontoon struts are soldered to the J-bolts on the pontoon crossbrace mountings. I found this to be very important after making an unnecessarily hot water touchdown which sprung the gear out of the J-bolts.

In preparation for covering, the entire ship should be sanded to a smooth surface. The formers between the stringers should be sanded flat for smooth covering contact. Give the entire structure a coat of clear dope (three coats on the pontoons) and sand lightly after dry. I also gave the internal structure of my ship one coat of clear for protection against water.

A tough covering material is recommended, preferably Berkeley model nylon or silk. Nylon should not be used over the fuselage stringers to prevent warping, silk will work out nicely here. The tail surfaces should not be covered, thus saving weight behind the center of gravity. The pontoons should be covered with nylon, overlapping the seams to prevent the possibility of a leak.

Give the covering two thinned coats of clear dope before lightly sanding. Apply a couple of coats of filler to the covered wood areas and sand again with fine sandpaper. Finish with another coat of clear and four coats of thinned color dope, trimming to suit your taste. The original Sure-Fun was given a finish of butyrate orange-yellow dope with red trim, resulting in a nice effect on the water.

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the first  
LONG LIFE  
GLOW PLUG



This is the same plug that was used in the 34 hours and 34 minutes World Endurance Record and is available now in your local Hobby Shop. The life of no other plug can approach the hours of use you will get with a GOLD SEAL GLOW PLUG. Designed for maximum R.P.M. it guarantees top performance.

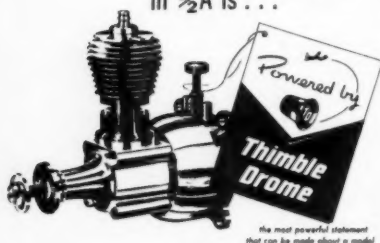
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## Official Results

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## 1957 Nationals

For the third straight year, Thimble  
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**All Other Makes Combined!**

### TD ENGINES—All ½A Events

7 out of 9	-	-	1st Places
6 out of 9	-	-	2nd Places
7 out of 9	-	-	3rd Places

*Speed*—All 3 first places, 3 second places, and the 3 third places taken by Thimble Drome.

#### CLIPPER CARGO

1st, 2nd, and 3rd taken by Thimble Drome

#### FREE FLIGHT

Two out of three 1st places by Thimble Drome

#### PAA LOAD

One out of two 1st places by Thimble Drome

### THIMBLE DROME FUEL

½ Speed—Two out of three first places  
Clipper Cargo—First Place  
PAA Load—One out of two first places  
Free Flight—One out of three first places

*For Speed or Sport,  
in Planes, Boats or Cars—  
BE SURE—Power with the BEST*

**THIMBLE DROME ENGINES  
THIMBLE DROME FUEL**

**L. M. COX MFG. CO., INC.**  
Box 476, Santa Ana, California

## Let's Get Started

(Continued from page 28)

means a small, rubber-powered model of the stick type. It may have all balsa parts or (better for later attempts) a framework wing with paper covering. Gliders can be self designed and built from raw materials later but, at first, ready-to-fly gliders are ideal. One of the first truly successful toss gliders was the American Junior 74 Fighter. For the younger fellows who have never glued a joint, these gliders teach plenty about flying. The wing can be moved back and forth in its slot to change balance from nose-heavy to tail-heavy, giving looping flights, or zippy, ground-covering flights. By breathing on the wood rudder or wing tips, the builder can warp in slight adjustments for turns and bank. The wood should be twisted slightly.

Jim Walker (of AJ) performs incredible feats with these little gliders. They circle behind him, come back to hand. Or make a figure eight, and land on his hand. Or loop overhead, come between his knees and continue to loop back into his hand. Testors and others also package good gliders. A guy can learn to fly, to adjust a model, all without a destructive crack-up and then apply that knowledge to trickier things which, otherwise, might never work for him. You'll also find Testor gliders and fliers almost anywhere.

Since before World War 2, American Junior has had an amazing glider, the Interceptor. Two generations of modelers have known these gliders and the darned things are still as sensational as ever. The wings fold back for launching. The glider is catapulted high into the air by means of a rubber that ties around a dowel (held in the other hand) that comes with the glider. The model zips straight up and, as it slows down, the decreasing force of the air permits the wings to swing forward to their extended position for gliding flight. The Interceptors soar beautifully and, very likely, will teach you about thermals. You'll lose them occasionally high in a cloud. It takes a little adjustment, again by warping the sheet balsa of rudder and wing tips, to get circling, nose-up turn-and-bank. On a summer evening, swallows madly chase this wooden hawk! Lessons learned here come in handy later when adjusting towline gliders, and free flight models.

The AJ Hornet, rubber-powered model with plastic prop, is another dilly. Considering its plastic prop and color-printed cambered wood wings, it is a remarkable design to date back at least 15 years. In more recent years, Testors and others have similarly brought out good items. The Testor Dipper with plastic prop and rubber motor is another good deal.

The new modeler can learn to stretch wind the rubber, which is the way high-performance duration rubber-powered models are operated for those sensational contest winning flights. A helper grasps the propeller to take up strain, while the flier uses a hand drill with a music wire hook in the chuck, stretching out the rubber to three times its normal length, to wind in more knots than otherwise possible. As he winds, he walks in slowly until the rubber is ready to be put back on the hook, but with about three rows of knots. Boy what flights! The circling climb in calm air is beautiful to watch. The climbing turn can be tightened or widened by slightly bending the flying surfaces. Some flights will go haywire but the experimenting teaches fundamentals without grief.

Now, with all the balsa fliers on the market, gliders or rubber-powered, a fel-

low has to care for his model. He learns that wet grass takes the shape out of the wood wing. That sharp, hard obstacles means split pieces. He learns to patch and make last. Good habits for later on when a ship or two may be nursed along for a year or more. When the rubber gets weak and worn, he can replace it. He finds out how rubber stretches, how it takes less turns when new, how it losses its zip when overwound. Handling rubber is the secret of any rubber-models' duration and altitude-grabbing ability. He finds out about rubber lube, which makes possible more rubber winds and prolongs rubber life. Glycerine and green soap from the drug store mixed three to one, make an excellent rubber lubricant. Some hobby shops have rubber lube—you can buy it from America's Hobby Center.

Requiring no construction, these ready-to-fly items are ideal for the youngest novice—and they are fun, anytime, for anybody. For the fellows of less than ten, who've never tried a flying model before, these "fun" models guarantee success the first time out. Easy, level launches, and smooth flights become routine. Most people cannot launch a flying model. Even Dad would probably toss the little crate too hard into the wind and loop it into the ground. And he would not know how to toss a glider so that it circles upwards smoothly and then glides in gradually descending circles. How can anybody launch a gas-powered free flight without this experience? Many an adult has said this is a cinch and then splatters the complicated crate he picked for his starter? An expert modeler takes pride in his ability to launch even a 10-cent glider—just so. He has "feel," or a sense of flying speed of the model and just what force it takes in launching.

If you think you are too good for such things, make this test. Take any free flight model, balsa glider, built-up Half A-powered, sport job, anything, and hand glide it so it glides out straight from your hand, without stalls or dives or turns, string-straight to a spot you aim at. Most modelers can't even hand glide a model—and they don't know it!

Of course, ready-to-fly things will not make a builder out of anyone. Building consists, fundamentally, of cutting, sanding, and cementing together the wood pieces. It takes some skill but skill is nothing but practice and pride of workmanship. So, going back a good twenty years, and as excellent today as ever, are many of the balsa gliders and built-up ROG's now manufactured under the Jetco name. Razor blade cutting of pieces, sanding and sandpaper blocks, cementing and assembly techniques, are involved in just the right way for beginners who really want to build things. Many of these delightful items go back to Johnny and Frank Zaic, of whom all old timers have pleasant memories. And the models really fly. From them are learned basic proportions. Anybody should thereafter be able to make their own simple experimental designs and fashion worthwhile fliers from hobby shop raw materials. Component parts and dimensions can be altered to "see what happens." Build a few of these and, free flight or control line, a chap is all set for bigger things.

Such as the gas engined Veco Dakota free flight sport model. The Dakota unquestionably is one of the most ingenious and lovable crates ever put on the market. Automatic is the word for it. An all-balsa biplane, it utilizes U-control prefabricated construction. It is virtually impossible to fail to build it. Like the straight line in

(Continued on page 48)

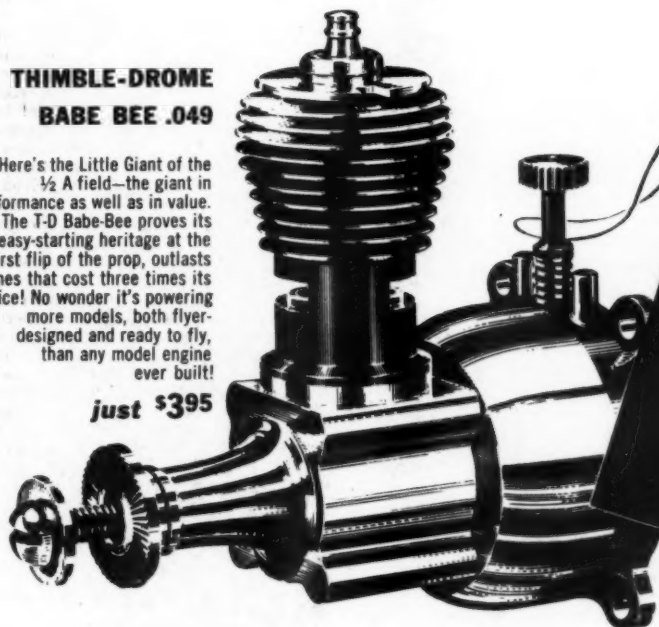


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these two beauties  
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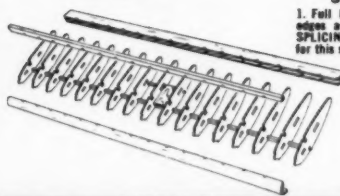
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Wing Area: 390 sq. in.  
Length: 28 in.

Engine  
Size:  
15 to 35

Here's Why It's a  
Superior Model:

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**\$7.95**



1957 WINNER Nationals Open Stunt  
(National Stunt Champion)

the  
"Winningest"  
Stunt Model  
Ever Flown!

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- 1956 WINNER Nationals Senior Stunt (National Stunt Champion)
- 1955 WINNER Nationals Senior Stunt
- 1954 WINNER Trinidad Nationals Stunt
- 1954—3rd in Nationals Open
- 1954—3rd in Nationals Senior
- 1953 WINNER Nationals Senior Stunt
- 1952 WINNER Nationals Stunt
- 1951 WINNER International Stunt

### THESE MODELS SWITCH FROM CONTROL LINE TO FREE FLIGHT IN A JIFFY! ▼

Each kit contains: formed landing gear, push rod, elevator horn, wheels, bell crank, firewall, decals, and all necessary hardware. All parts are completely finished. Only select Grade-A balsa is used. Full size detailed plans with many step-by-step construction features making it easy to build and fly furnished with each kit.

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• All feature Famous JIGTIME CONSTRUCTION for easy, no-mistake assembly!



Kit  
G-5

### RASCAL 27

**\$1.95**

An outstanding favorite with all 1/2A model builders for years! 27 inch wingspan. Features die cut clear plastic windshield.



Kit  
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Top Flite  
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**1/2 A SPEED SENIOR**  
Allan Brooks  
Tacoma, Wash.  
Speed: 87.35 mph  
Engine: Cox .049  
Fuel: Thimble Drone R  
PROP: 4 1/2" POWER PROP  
Plane: Original

**FAI GAS JUNIOR**  
Gary Feakes  
Cedar Rapids, Iowa  
Time: 17:33.3  
Engine: K&B 15  
Fuel: Hell's Fire  
PROP: 8-3 1/2" TOP FLITE  
Plane: Lucky Lindy

**FAI GAS SENIOR**  
Donald Gurnett  
Fairfax, Iowa  
Time: 21:48.1  
Engine: Webra 15  
Mach 1  
Fuel: Own Mix  
PROP: 9-6" TOP FLITE  
Plane: Lucky Lindy

**FAI GAS OPEN**  
Daniel Sobala  
So. Hadley, Mass.  
Time: 22:08.5  
Engine: Oliver 15  
Fuel: Ohlsson  
PROP: 9-5" TOP FLITE  
Plane: Original

**STUNT JR**  
Bob Winks  
Cleveland, Ohio  
588.0 points  
Engine: Fox 35  
Fuel: Own Mix  
PROP: 10-5" TOP FLITE  
Plane: Thunderbird (mod.)

**COMBAT JUNIOR**  
Robert Krakaushas  
Little Falls, N. J.  
Engine: K&B 35  
Fuel: O&R 2  
PROP: 9-7" TOP FLITE  
Plane: Original

**FLYING SCALE CL JUNIOR**  
Gerry Ferguson  
Valley Stream, N.Y.  
197.2 points  
Engine: Fox 29  
Fuel: Testor  
PROP: 9-7" TOP FLITE  
Plane: Berkeley T-28

**FLYING SCALE CL SENIOR**  
Michael Burke  
Louisville, Ky.  
237.4 points  
Engine: K&B 29  
Fuel: Exothermic  
PROP: 10-6" TOP FLITE  
Plane: Corsair F-4U1 (mod.)

**FLYING SCALE CL OPEN**  
Tom Dean  
Corpus Christi, Tex.  
347.2 points  
Engine: Cameron 19  
Fuel: Supersonic 1000  
PROP: 9-6" TOP FLITE  
Plane: Original

**NAVY CARRIER SENIOR**  
Robert Heminway  
Auburn Park, N. J.  
499 points  
Engine: McCoy 60  
Fuel: Own Mix  
PROP: 11-8" TOP FLITE  
Plane: Skyraider (orig.)

**NAVY CARRIER OPEN**  
C. Stephen Babin  
Fairview Park, Ohio  
520 points  
Engine: McCoy 60  
Fuel: Own Mix  
PROP: 10-9" POWER PROP  
Plane: Original

**A GAS FF SENIOR**  
Rudy Kluber  
Cleveland, Ohio  
Time: 30:07.5  
Engine: Torp 19  
Fuel: Nitro X  
PROP: 9-4" TOP FLITE  
Plane: Spacer

**B-C GAS FF JUNIOR**  
Alan Whitman  
Spartansburg, S. C.  
Time: 11:36.4  
Engine: Torp 35  
Fuel: Supersonic 1000  
PROP: 11-4" TOP FLITE  
Plane: Ram Rod 750

**R.O.W. GAS OPEN**  
Robert Kleinfelder  
Hamilton, Ohio  
Time: 12:00.0 (new record)  
Engine: K&B 15  
Fuel: Cheminol  
PROP: 8-3 1/2" TOP FLITE  
Plane: Zipper (mod.)

**CLIPPER CARGO**  
Donald Gurnett  
Fairfax, Iowa  
Wt. Lifted: 100 1/4 oz.  
Engine: Thermal Hopper  
Fuel: Thermal Hopper R  
PROP: 6-3 1/2" TOP FLITE  
Plane: Pelican

**R.O.W. GAS JUNIOR**  
Larry Willis  
Columbus, Ohio  
Time: 8:14.3  
Engine: Atwood Shriek  
Fuel: Thimble Drone  
PROP: 6-3" TOP FLITE  
Plane: Yo-Ho

**R.O.W. GAS SENIOR**  
Robert Nichols  
Meriden, Conn.  
Time: 9:34.1  
Engine: K&B 19  
Fuel: K&B 100  
PROP: 9-4" TOP FLITE  
Plane: Spacer

**AMERICA CL PAA LOAD JR-SR**  
Harold Thompson  
Miami, Fla.  
Time: 10:38.7  
Engine: Atwood .049  
Fuel: Nitro X  
PROP: 6-4" TOP FLITE  
Plane: PAA Master (mod.)

**RADIO CONTROL (RUDDER)**  
Richard C. Allen  
Apalachin, N. Y.  
106.5 points  
Engine: Fox 35  
Fuel: Fox  
PROP: 10-6" TOP FLITE  
Plane: Lancer

**RADIO CONTROL PYLON RACING**  
Keith Storey  
Pasadena, Cal.  
24.3 points  
Engine: Oliver Tiger 15 Diesel  
Fuel: McCoy Diesel  
PROP: 10-6" TOP FLITE  
Plane: Bonzo (orig.)

**STUNT OPEN**  
George M. Aldrich  
Tyler, Texas  
618.0 points  
Engine: Fox Stunt 35  
Fuel: Fox Superfuel  
PROP: 10-6" TOP FLITE  
Plane: Nobler



**COMBAT OPEN**  
Joe Kastetter  
Clifton, N. J.  
Engine: Fox 35  
Fuel: Own Mix  
PROP: 9-7" TOP FLITE  
Plane: Original



**A GAS F.F. JUNIOR**  
Suzanna Allen  
Valley Stream, N. Y.  
Time: 13:43.9  
Engine: Atwood .051  
Fuel: K & B 1000  
PROP: 6-3" NYLON TOP FLITE  
Plane: Ram Rod



**A GAS F.F. OPEN**  
Don Assel  
Canton, Ohio  
Time: 30:05.2  
Engine: K & B 15  
Fuel: Thimble Drone R  
PROP: 6-4" POWER PROP  
Plane: Original



**HELICOPTER**  
Parnell Schoenky  
Kirkwood, Mo.  
174.12 points  
Engine: Atwood .049  
Fuel: Cheminol AA  
PROP: 6-3" POWER PROP  
Plane: Original



**1/2 A GAS F.F. SENIOR**  
Rudy Kluber  
Cleveland, Ohio  
Time: 22:15.0  
Engine: Thermal Hopper  
Fuel: Clear Magic  
PROP: 6-3" POWER PROP  
Plane: Ram Rod 250



**C.L. ENDURANCE OPEN**  
Tommy De Ville  
New York, N. Y.  
Time: 1 Hr. 35:19  
Engine: Fox 25  
Fuel: Testors 39  
PROP: 11-5" TOP FLITE  
Plane: Original



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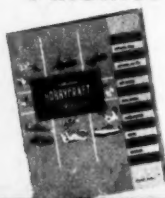


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## RC at the Nationals

(Continued from page 22)

saw something that made them want to close their eyes... Dick Brantsner kicked his ship into an inverted spin, not once but repeatedly.

Among those who cursed out the time set aside for the air show on Saturday and Sunday were the writers. In Open Rudder Event, Dick Allen of Vestal, N.Y. and Leon Shulman of Cranford, N.J. came up with 106.5 points each for the only tie on the boards. It would have been nice if time had allowed a fly-off pair of flights, but under the existing rules it was necessary to refer back to the second best flight that each had made to determine the winner. Allen's second best flight was 85.5 points, Shulman's second best was 64.5, making Dick Allen the winner of the event.

There is no question that Dick qualified to win, for he proved his ability by winning the Mirror Meet Rudder Event at Floyd Bennett Field this spring, but the excitement of flying off a tie score as they do in the International Events is undeniable. Allen used a Valley Electronics 4-tube single-tone receiver with Robot Synchro pulse-servo and Shulman was flying Macnabb 465 mc equipment. Following close on Leon's heels came Walter George with 99.5 points, Ken Brenegan with 91 points and Fred Romano with 90 points for 3rd, 4th and 5th.

At the beginning of flying on Tuesday, July 30th, several ships showed up for the "rudder only" class with brakes, steerable tail wheels in addition to the engine control mentioned in the AMA rules. Since the rules failed to state "only" after "engine control and cut-off," technically these features were allowed. One ship had 5-channel

C.G. equipment, with two for rudder on a servo, two channels for engine and one for brakes; another ship with only single-channel pulsed RF signals had a delayed action "off-signal" engine control and a clever linen-cord actuated brake system that operated off the pulse actuator motor. Quite a hassle developed, with the Contest Board expected to "interpret" the rules on Wednesday night at their meeting. Instead, they avoided any action and, on Thursday, since the large majority of rudder-only contestants had limited their additional controls to engine throttle and cut-off, Vern Kroamer and Norm Jamieson, the Event Directors, made the decision to allow only engine in addition to rudder. Of the half-dozen with extra controls, only one felt he was being "scalped" by the decision—the rest simply disconnected their extras and felt that at least they were all competing on an equal basis. Ken Brenegan, with the pulsed rudder mentioned above, disconnected his extras and still made 4th. Ken also had a Bramco throttle on his Torp 15, for low, cruise and high. The cruise throttle gave him excellent control in the wind, despite a flat-bottomed airfoil.

Jr.-Sr. "Rudder Class" was topped off by Bennett with 80.5 points, followed by Frank Boykin (64 pts.), Jerry Nelson (56 pts.), Alex Rogutsky (54 pts.) and Tom Stott (52.5 pts.) There was a good amount of clean-cut flying in rudder-only despite several days of gusty weather and too many ships that still had flat-bottomed airfoils that are guaranteed to balloon in the wind. Quite a few had engine control; most of them were on escapements.

Only 21 flying entries in the Intermediate Class proved that not many fellows find it easy to "dial M for Murder." Cascaded escapements, with three blips for up

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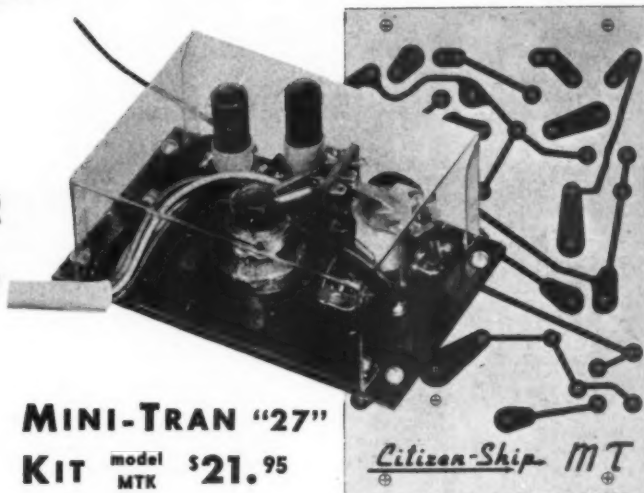
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and four for down, with the possibility of using wheel brakes on the 5th position, just didn't seem popular with fellows we spoke to. A few of the "Galloping Ghost" kick-pulse systems flew and we saw where they get their name. One ship looked like a kicking mule going overhead. Don Brown did a creditable job of making 139 points, but 2nd place Bill Gilkey with 84.5 points was 15 points lower than Walter George, the 2nd place winner in Rudder-only Open Class. Bill Davis hit 3rd with 79, Milt Zoloth with 68 and Paul O'Neill, with 54.5, racked up 4th and 5th places respectively.

Pylon Racing and the RC Scale Events got off to a slow start since this was the first year for these events, but unlike Intermediate, where there wasn't much interest shown outside of those who had ships, it seems that by next year everybody will have a scale or pylon ship. In the Pylon Event, Keith Storey's Bonzo, complete with pilot in the cockpit, started everyone buzzing. The first thing to be learned, just from watching, was that pylon flying isn't easy. With 8-channel Orbit equipment, Keith still didn't "wrap the ship around the pylons." Flying a ship low and fast takes nerve and Keith admitted to butterflies in his midriff even with over 40 previous flights. From 25 or 50 feet up, it doesn't take long for the ground to get up to where you just made a mistake. Despite this and the fact that Keith, the 1st place winner, only clipped around at 24.3 mph for the five circuits, half the modelers on the field felt an itch in their fingers to start a ship for the event.

Lou Andrews had his new "X-Ray" ship that is a semi-scale Goodyear type with dual pulse ready, but ran into difficulties. John W. Jones was hot on Keith's heels

with 23 mph, Don Brown came along with 21.8 mph for 3rd, Dave Burt was 4th with 20.08 and Harold deBolt flew his Biplane 19.5 mph for 5th place.

If you're thinking, as we did before the Nationals, that Pylon Racing is simple, just consider this: to make a "wrap around" turn at a pylon where you really lay the wings vertical, you must first give the ship hard left rudder, then up elevator as it rolls over on its wing tip, for elevators become the directional "rudder," then top or right rudder to keep the nose up and to roll the ship out of the turn, then down elevators to get the nose down flat for the run up to the next pylon! All that must be done fast and automatically and just sitting here thinking about it explains why so many of the fellows in this year's event swung their turns far, wide and not so handsome! Keith's only comment after slicing into the ground on an early flight on a turn was "these things need more dihedral so I can't make so many mistakes." Keith's Bonzo had less than three degrees. One discussion wound up with everyone agreeing that there probably is a happy medium to pylon racing between the wide, sedate turns and the "wrap-around" spectacular, where the turn is about 40 to 50 feet in diameter. Since the flier is almost in line with the starting pylon, judgment of this size turn would be relatively simple.

All we can convey to you scale bugs is the thought that if the pictures of those Wacos look good sitting on the ground, you should have seen George Kilbey's 1/5th size blue and yellow F-3 biplane swing around overhead, glide over the edge of the runway and rumble along to a stop. He had an Anderson Spitfire for power, Bramco 5-channel control and a Bramco throt-

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YOU HURRY  
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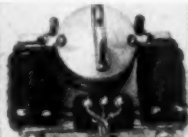
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tle... and he had everyone on the field with a stiff neck watching him fly. The day both Wacos were turned in for judging, the boys sat polishing them for four hours! George knocked off 102.5 points to take undisputed first place. One surprise of the meet that Bill Snuffin, the Event Director for Scale, kept under his helmet until the day the ships were to fly, was that any ship that didn't fly, gained no points whatsoever.

It seems they were worried lest some ship that couldn't fly, gain so many scale points it would beat out another ship that wasn't so dressy but flew well. In Kilbey's case, the worry was unfounded, but there were many of the entries that couldn't be flown for a variety of reasons including radio trouble. One scale job, a beautiful Fleet biplane, tried to take off, couldn't make it, was damaged beyond possibility of repairs before the end of flying at 2:00 P.M. Ammand Cote with a Cub that looked like you could step into it and take dual time for your ticket, took second with 89 points. These points were for scale and flying, in accordance with the rules.

The FAI RC speed record of 66.4 mph came in for a concerted attack over at Vern Kroamer's airport with Dale Root clocking a little over 60 mph, Dick Brantsner hitting 50 and Vince Bonnama, Ernie Kratzet and a few others doing around 40 mph. Vince was flying dual pulse, the rest reeds. While the record still stands, the equipment gave the boys a chance to see just exactly what they could do.

Two runs were timed, one upwind, the other downwind, with the two runs averaged for actual speed, just as with the full-scale speed tries. Herb Honecker of the DCRC group brought up his equipment which consisted of two sights and an electrically operated stop watch arrangement that was started by a push-button at one sight, stopped by the man at the second sight.

Saturday night, August 3rd, the RC contestants held the most productive meeting we've ever attended. Over 63 fans crammed into a pilot's ready room to hear the gory details of how the AMA Contest Board considers the "clarifications" that would limit "rudder only" to rudder and engine control, possibly to single channel, actual rules changes. The rules may not be changed until January 1st of next year.

Bob Elliot, Contest Board member from District 1, did a good job on that one, then Ernie Kratzet took over to present a method of handling large numbers of entries in rc that had been tried last year in Detroit. Basically, it boils down to having "qualifying flights" where a flier must make a certain number of points just going through the pattern of 500' out, procedure turn, figure eight and rectangle, then perhaps a loop, wingover and spiral dive. The minimum points to qualify for later "championship," flying would be the total of the average markings (total of 54 points) of the possible 84 points for these maneuvers under AMA scoring procedure. In Detroit they tried to obtain the top ten fliers in each class, came up with 11 in one class, 10 in the other. It was pointed out that this procedure would allow more time to handle large numbers of contestants, since definite time, say perhaps the last day of the Nats, could be set aside for the "fly-offs" or championship flying. (Let's hope for good weather!—Editor)

A time advantage would be that once a fellow qualified, he would stop flying instead of trying to increase his points by repeated flying, thus leaving time for other

(Continued on page 49)

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Three	Six	One	One	Six

## 18 TORPEDO THIRDS

<b>.09</b>	<b>.15</b>	<b>.19</b>	<b>.23</b>	<b>.24</b>	<b>.29</b>	<b>.35</b>
One	Three	Four	Two	One	One	Six

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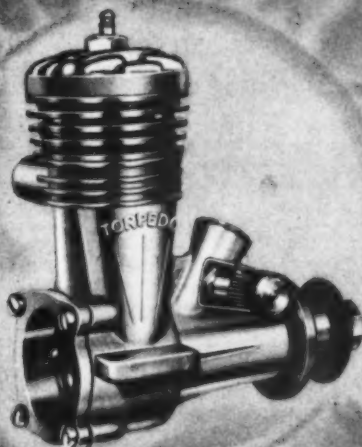
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Don Aspel	Open
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Robert Kleinfelder	Open*
<b>Free Flight F.A.L. Power</b>	
Gary Foskes	Jr.*

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Bill Wisniewski	Open*
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<b>Free Flight ROW</b>	
Robert Nichols	Sr.*
<b>Radio Control Rudder</b>	
Dick Bennett	Jr. - Sr.

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Hardy G. Lewis, Jr.	Jr.*
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### TORPEDO .35 Combat

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<b>B C Free Flight</b>	
Alan Whitman	Jr.

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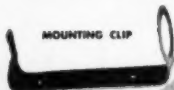
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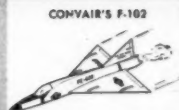
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## FLIGHT CONTROL

THE EXCITING, NEW  
3-LINE CONTROL SYSTEM



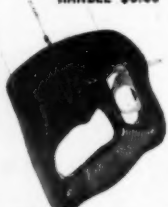
PLANE UNIT \$2.95

1. NEW PLANE UNIT!!!  
simple, easy installation.  
—very smooth operating  
mechanism—strong con-  
struction—will withstand  
extreme line-pull tests.  
Full elevator movements at  
all motor-speed positions.  
Very simple push-  
rod connections—lead-out  
cables attach in same  
manner as regular bell-  
crank—

the model very easily—  
70% longer flight on  
same amount of fuel—  
stunt flying unparalleled  
by any other method of  
control.

3. LIGHTWEIGHT, DURABLE  
HIGH-IMPACT  
plastic handle with me-  
chanism that equalizes  
line-pull of plane at all  
times. Trigger or auxil-  
iary lever allows preci-  
sion control over a wide  
range of power variation  
and many extra new easy-  
to-operate controls in the  
model.

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control ever devised.  
"FLIGHT CONTROL" and

Works perfectly with  
radio control.



MODEL MFG. CO.

BAKER, OREGON

## Let's Get Started

(Continued from page 40)

geometry, it is the shortest distance be-  
tween two points—no experience to a suc-  
cessful flier. In our tribe, the Dakota has  
been part of growing up. Everybody has  
made one. Neat or crude, every Dakota  
flew and each flew just like its predecessor.  
The Dakota is as near to a control line  
model as you can get in free flight. It is  
proportioned and laid out to fly in left  
circles, and will do so with every engine  
from a wee .02 or new Cox baby engine—  
up to the .049's. We've seen them sky-  
rocket up in a straight climb, however, with  
.065's etc. when flown for fun by experts.  
With a small engine the crate barely main-  
tains altitude; the circles are always the  
same, but more power makes the circles  
into an upward spiral. Heavy and rugged,  
the Dakota glides—but just barely, and  
you'll never lose it. On a calm day it will  
circle over the take-off spot, in a wind  
it will drift gradually. There's no paper  
covering. Wood, cement, pins—that's all.

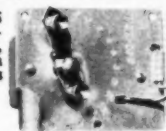
One Dakota was passed down, like an  
old suit, and made hundreds of flights on  
a Cub engine. Someone once cut down a  
9 x 6 prop into a stumpy club that never  
should have worked but did. The battered  
little ship flew for a year on that club—  
hardly more than a hub with two stumps  
for blades, and once snagged a thermal  
to land a mile away. That's built-in suc-  
cess! This is an any-age crate, but for 12-  
year-olds and under, it's a wonderful  
trainer. Only building fundamentals are  
involved. And, by playing with a rudder  
trim tab, any boy can control the circle  
size, climb, etc. Any flying mistakes  
can be remedied by the cement tube. But  
always use a small tank...

See you next month?

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.19 TO .25

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pieces that Key in place and fit!

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**AMBROID COMPANY, INC.**

**EAST WEYMOUTH, MASS.**

### RC at the Nationals

(Continued from page 46)

contestants to try to qualify. A flier, once qualified, could sit back until the championship flying, saving his ship for the real effort. Only six minutes were allowed for qualifying flights and seven minutes for championship flights, since the pattern (maneuvers 2-6) had been accomplished to qualify, would not need to be repeated.

Dick Brantsner pointed out that by Saturday at the Nats only five fellows had made 200 points in multi. He thought they should be allowed to fly it out the next day, but instead many fellows who hadn't yet flown would be flying. Proof that we need eliminations or qualifying flights was that, by the end of the week, the flight list was so long, top fliers only flew once each day. Walt Good went from Friday night to Sunday morning between flights, Harold deBolt never did get to fly officially on Sunday.

Claude McCullough, Chairman of the Contest Board then described how the Board proposes to change itself into a number of boards, one for each category of flying. Thus, if the changes go through, there will be an RC Contest Board, Free Flight Contest Board, etc.

The discussion switched to pylon racing and the four minutes to finish the five trips around the pylon was tossed around. When that rule was made, it was thought that it would take the average ship designed for that type flying, about two minutes to make the circuit. Despite the fact that several attempts were made that were disqualified because they took over four minutes, the majority were in favor of retaining the rule, since speeds would increase by next year.

The idea of having a helper at the far pylon to indicate when the ship was near the pylon, in position for a turn, was discussed favorably. At present the rules call for a judge at the far pylon only for the purpose of signalling when a pylon was cut short. The rules, however, say nothing against having a helper out at the pylon to signal when the ship is ready for the distant turn and a couple of the fellows had this assistance. Most fliers readily admit to not being able to judge 528' straight out very accurately, would swing out much further than the pylon to avoid being called for a "cut" and having to swing back around it. Consensus of opinion was that such an assist was a necessity. Keith Storey described the possibility of two or three planes flying pylon at a time on different frequencies from a scramble start to a flag finish and added some new recruits to the idea of pylon racing.

Since the meeting had no official status, the members present voted to send minutes of the meeting to Howard McEntee, Chairman of the Rules Advisory Committee for RC, who would in turn pass the recommendations on to the Contest Board.

Next month we'll try to give you a run-down on the how and why of some of the new features seen on rc ships at this year's Nats.

### NEXT MONTH

More about R.C.

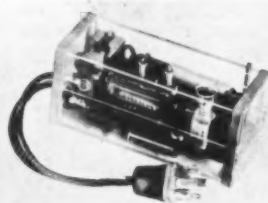
at the 1957 Nats

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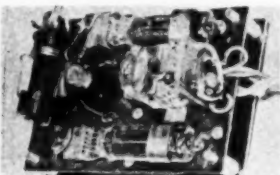
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# IMPORTANT NEWS—FROM RADIO CONTROL CENTER—U.S.A.

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Both models equipped with plastic or alum. case as specified. MICRO GEM relay std. Others available.

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Sub-min 1/2 **TONE**. An excellent performer. Simple 2 tube non-selective audio tone receiver for use with most tube XMTRs. Complete set housed in alum. case ready for use. .... 19.95

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Special model for **BRAMCO 5-8 channel XMTX 15.95**  
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Essco BC3B battery charger for all RC types of wet cells/batteries including Silver Cell (not a kit) 8.95  
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Imported 2 volt 3 amp cell \$1.75; 6 amp cell 2.75  
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SUB-MIN CONTROL POTS 10K, 25K, 100K, 250K 1.00  
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STD size phone plugs .45; Sub-min ..... .85  
STD size and sub-min closed circuit jacks ..... .45  
Banana plug/jack-Nylon tip jack w/ phone tip .35  
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Ceramic Trimmer, 4-30, 5-25, 7-45 mmf ..... .60  
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## MODEL OF THE MONTH

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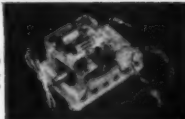
KIT PM24

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Specifications:  
Basic 5M-1 circuit, - 1AG4 hard tube in detector stage, transistor in relay stage. Silver mica condensers insure reliability & thermal stability. Receiver contains no easily cracked printed circuit. Detector idles at 1/2 mil. Relay jumps from 0 to 4.4 mil on signal - this means negligible battery drain and positive relay action.  
Order direct or from your dealer.

WORLD ENGINES

P.O. Box 136 Cincinnati, O. Ohio

## The Zyphyr

(Continued from page 27)

straight-grained 3/32" square balsa for the fuselage. Build the sides separately. Cut and pin the longerons in place over the side view. Add the cross pieces. Put in the 3/32" sheet nose section pieces and the motor pin receiver pieces. Allow ample time for all cement joints to dry. Trim away excess cement before assembly of the completed sides.

Pin and block the sides up over the fuselage top view. Cement in the cross pieces. Fit the 3/32" sheet pieces top and bottom at the nose section and the end of the fuselage. Make the nose block from 1/4" medium hard balsa. Drill the 1/4" diameter nose button hole and cement the block in place. Do finish trimming and sanding after the block is on the fuselage.

**LANDING GEAR:** Bend the main landing gear struts from .040" wire as indicated in the layout. Form the .031" brace to fit. Bend the last 1/4" of the brace wires parallel to the main struts and then bend a 1/4" right angle hook at the very tips. This parallel section is bound to the main struts with thread after the units are installed.

Cement the landing gear wires in the fuselage. Bind the struts together with thread and cement. Install 3/32" square balsa cross pieces in the fuselage against the cross wires. Bind the cross wires to the braces with thread and cement.

Fit 1 1/2" diameter hardwood wheels if possible. If unavailable make wheels of cross-grain laminations of hard 3/32" sheet balsa. Cement 1/4" copper washers on each side to form hubs. Bind axle ends with thread and coat with cement to hold wheels on. Cement on the .024 wire tail skid.

**TAIL SURFACES:** Build the stabilizer and rudder frames from pre-sanded 3/32" square balsa. Allow ample drying time for all cement joints. Sand leading and trailing edges to a round section.

**Wing:** Build the wing in left and right panels. Pin down the 1/4" square leading edge and the 3/32" x 1/4" trailing edge. Cut the wing ribs from medium hard 1/16" sheet balsa. Make ten No. 1 ribs, and two each of nos. 2, 3, and 4. Put in the wing tip pieces and add the 1/16" square spars. Trim and sand the leading and trailing edges to complete the airfoil shape.

Do not make a separate center section. Set the left and right wing panels in place over the wing plan. Pin in position at the center section and prop each wing tip up 2 1/4" for correct dihedral angle. Cement in the cut and trimmed center section leading and trailing edge pieces and the 1/16" spar pieces. The spars are run top and bottom across the wing root sections and the center section. Check photo of uncovered wing for this detail.

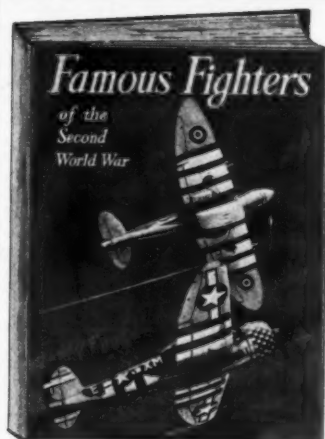
**NOSE PLUG:** Make the removable nose plug from cross-grain laminations of hard 3/32" sheet balsa. Carve the 1/4" diameter plug shaft from scrap balsa. Cement the plug to the shaft. Push three or four snipped pieces of straight pin through the shaft into the lamination to strengthen the cement joint.

Drill the plug to take a bushing of 1/16" copper or aluminum tubing. Cement a 1/4" copper washer to the plug as a face plate. Builders who have access to a wood lathe may want to turn a more durable nose plug from birch or maple.

**PROPELLERS:** A variety of propellers may be fitted. The model flew well with a 10" Paulownia prop. Machine-cut 10" or 11" balsa props are excellent if available.

For top performance use a 1 1/2" diameter hand carved prop. Cut the prop blank

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from a block 1 1/4" x 1" x 1 1/4" according to the layout given. Carve and finish in standard fashion. For added strength cover the blades with silk. The Jap silk handkerchiefs found in most five-and-dime stores serve very well. Use clear dope for adhesive.

Make a prop bushing of 1/16" tubing and cement on a 1/4" washer as a bearing. Give the finished prop several coats of thinned clear dope. Balance carefully to minimize vibration during motor run.

**FREE-WHEELING:** Use a light weight free-wheeling device to improve the glide. The tube and pin type shown is very reliable. Cut a 3/4" long piece of 1/16" aluminum tubing. Clip a one inch piece of .031" wire and make a right angle bend of 3/4". Insert the wire in the tube and make the other bend. These are right angle bends, the top pin pointing left with the lower pin vertical to engage the winding hook arm. Cement the unit in place, bind with thread, and give another coat of cement. Check prop balance after adding the free-wheeling.

Make the propeller shaft from .031 wire. Bend the winding hook first. Slide on the prop, two 3/4" washers, and the nose plug. Bend the motor hook after assembling the prop unit.

**COVERING:** Sand all wooden surfaces with very fine sandpaper. "Wetordry" silicon carbide paper, grits 400A to 600A, does a fine job on balsa wood. Give all framework one coat of thinned clear dope to seal the wood. Cover the model with Jap tissue. Use yellow, red, or orange for good in-flight visibility. Use clear dope as adhesive.

Do the fuselage in sections, top, sides, and bottom. Run the grain of the paper lengthwise. Trim paper with razor blades

or small scissors. Water spray the covered fuselage to shrink the paper. Finish with two coats of thinned dope. Put on the cabin windows of celluloid or light plastic.

Cover the wing in sections to minimize wrinkles. Run the grain of the paper spanwise. Do bottom of main panels and center section. Do top surface of main panels, tapered tips, and center section. Dope the paper to the outlines of the sections. Do not try to dope to all wing ribs or spars. Spray the wing, let it dry, and give one coat of thinned dope. Pin and block wing to bench during process to maintain dihedral and control warping.

Cover the stabilizer and rudder on both sides. Water shrink and give one coat of dope. Pin surfaces down on wax paper covered drawing board during finishing.

**ASSEMBLY:** Begin assembly of the model by cementing the stabilizer in place. Check alignment carefully. Set the rudder 1/16" off center to the left as indicated on the stabilizer plan. This will give enough right rudder for a gentle right turn in the glide.

Make two wing mount hooks of .024 wire. Cement in position under the landing and trailing edges of the center section. Cement a strip of tissue over wires to strengthen the cement joints. Use a piece of 3/32" square balsa for an incidence block. Groove and fit over wire between the front wing hooks. Hold wing in place with rubber bands stretched from hook to hook under the fuselage.

Details may be added as desired but use light materials.

**FLYING:** Make up an 18 1/2" long, 12 strand motor of 3/4" T-56 rubber. Slip a piece of rubber tubing on the prop hook to protect the motor from cuts. Hold the motor in place on the hook with a small rubber band.

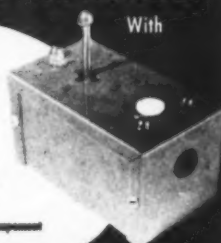
(Continued on page 53)

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Lubricate the motor thoroughly with a commercial lube, or use a mixture of one part glycerine, two parts liquid tincture green soap, available at drugstores. Wipe off excess lube before installing the motor. Use  $\frac{1}{8}$ " dowel for the rear motor pin.

Cement a piece of  $\frac{1}{16}$ " balsa under the left side of the nose plug. This will give enough right thrust to cause the model to turn right under power.

Trim the model for a long flat glide to the right. Take plenty of time glide testing. When the glide is satisfactory, with no tendency to stall, try a short power flight with about 100 turns in the motor. A smooth climbing turn to the right followed by a flat glide to the right is the ideal flight pattern.

Break in the lubricated motor carefully during the test period. A 12 strand motor  $18\frac{1}{2}$ " long will take up to 300 turns hand wound. The same motor when stretched and winder wound will safely take up to 550 turns. But build up capacity gradually; a motor that breaks during winding can shred a fuselage!

Though designed for pleasure flying the Zephyr is capable of soaring "over the hill" in thermal conditions. The builder should put his name, address, and phone number on the model. If it does decide to make like a buzzard it stands a good chance of being found and returned.

#### Bill of Materials

(Measurements in inches unless otherwise specified).

Five pieces  $3/32 \times 3/32 \times 36$  hard balsa: fuselage; two pieces  $3/32 \times 3/32 \times 36$  medium hard balsa: rudder and stabilizer; one piece  $\frac{1}{8} \times \frac{1}{8} \times 36$  medium hard balsa: wing leading edge; one piece  $3/32 \times \frac{1}{4} \times 36$  medium hard balsa: wing trailing edge, wing tips; three pieces  $1/16 \times 1/16 \times 36$  hard balsa: wing spars; one piece  $1/16$  sheet balsa: wing ribs; one piece  $3/32$  sheet balsa: nose section, nose plug, motor pin receivers, fuselage end piece; one piece  $\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{4}$  medium hard balsa: nose block; one block  $12 \times 1 \times 1\frac{1}{2}$  hard balsa: hand carved propeller.

One pair  $1\frac{1}{2}$  inch hardwood wheels; one piece .040 wire: main landing gear struts; one piece .031 wire: landing gear brace, prop shaft; one piece .024 wire: wing mount hooks, tail skid; one piece  $1/16$  aluminum tubing: prop bushing, nose plug bushing, free-wheeling unit.

Eight copper washers  $\frac{1}{4}$  inch diameter: prop bearing, wheel bearings; one piece small rubber tubing: prop hook; one piece  $\frac{1}{8}$  dowel; rear motor pin; one piece celluloid: cabin windows; two sheets Jap tissue  $20 \times 24$ ; one tube cement; one bottle clear dope; one bottle dope thinner; one bottle rubber lubricant; one piece  $\frac{1}{8}$  flat T-56 rubber 19 feet long.

### Profile Silvaire

(Continued from page 18)

pattern similar to any other profile. A few hints might help the newer members of the hobby.

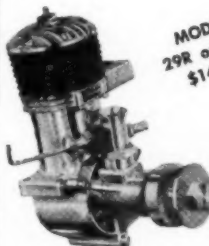
The biggest time saver would be to cut out all parts before actual construction begins. This way you won't be stopped from building another part while one part is drying on the plans.

Those who have four- and six-inch stock can ignore the splice lines on the plans. The fuselage splice is well reinforced by the two  $1/16$ " plywood nose doublers. A splice in the wing sheeting should be arranged so as to occur on the trailing edge half of the curvature where it will be the flattest.

FUSELAGE: Lay flat and cement the two fuselage pieces to be spliced. When dry,

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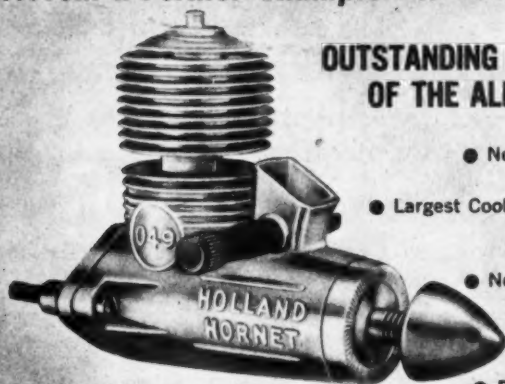
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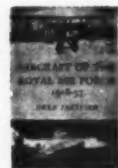


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cement the plywood nose doublers in place and clamp securely. The 3/4" square strips for the wing-rest can be cemented and pinned in place. This should be allowed to dry thoroughly.

**WINGS:** If 1/16" wing sheeting is to be spliced, it can be done at the same time the ribs are partially installed. Cement the two sections of each wing panel to be spliced together, pinning well to make a good seam. Next, attach the wing ribs in their proper location, upside down, cementing them only at the rear tip (trailing edge) for the time being. When seam and cemented portion of ribs are dry, remove and turn over. Apply cement to the rest of rib curvature and pin down sheeting so as to assume the desired airfoil section. When dry, trim away that portion of center section rib that is protruding, block up and join wings at their root. A strip of gauze will add tremendous strength when installed at the dihedral break.

**TAIL SECTION:** The rudder (fin) and stabilizer should offer no challenge. However, a decision should now be made as to whether this is to be a combo model or strictly free flight. If a U/C version is desired, then plans will have to be made for hinges at the elevator break. Though we have never flown ours as a U/C model, the adjustable elevator has been most helpful in trimming our model for desired flight pattern. You may have to add some lead weight to the nose. Just a thought.

Whichever you choose, the basic construction is the same. Both, or all, parts of the tail are made like a sandwich with the filling being in the form of a sheet-balsa framework, cemented first to one side of the outer sheet covering and, when dry, covered by the other sheeting. It is very strong and warpproof.

**PONTOONS:** For those who desire to go all the way, we have shown a pair of pontoons that will help you to qualify for the "soakin' wet society." About the only word applicable here is to make certain they are waterproof. Brass tubing, secured by gauze strips, act as retainers, with the wire hooks imbedded in each float for holding in place with rubber bands.

**GENERAL:** With all parts built and dry, the next step is to sand off the rough edges preparatory to final assembly. This would be a good time to decide upon the type of landing gear you desire. In all our flights and the complete destruction of one fuselage (we tried to catch it on the fly. Honest!) the landing gear has never bent out of shape. Therefore we would strongly urge you to consider the very little time involved in cutting and sewing the pieces of brass tubing required for this type. Once decided, the rest of the parts can be installed, cemented, and made ready for the finish coat.

**FINISH:** The original model had two coats of very thin dope applied first. In painting the wings, it is well to dope the under side first. Using very fine sandpaper, remove the rough spots caused by the dope, lifting the loose fibres of balsa. Now apply at least one more coat of heavy dope. Trim is up to the individual.

An engine mount, fashioned of light dural, is now mounted with two bolts to the nose section and your favorite engine mounted in place. Balance according to the plans. If there are no warps, your model should take a nice flat glide to a place of rest about 25 feet in front of you. The engine can be slid back or forth to complete the flight trim.

Except for a few details on the plans for flying, other than free flight, you're in business! Don't fill the tank too full until you have the flight pattern trimmed to your liking.



# AIRCRAFT OF THE 1914-1918 WAR



Edited by O. G. HACKETT. Drawings by E. J. BIRING.  
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## List of Contents

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### GREAT BRITAIN

Armstrong Whitworth  
F.K. 8  
Avro 504K  
B.E. 2B  
B.E. 2C and D  
B.E. 2E  
B.E. 12  
Blackburn Kangaroo  
Bristol Scout "D"  
Bristol Monoplane  
Scout  
Bristol F.2B Fighter  
de Havilland 1A  
de Havilland 2  
de Havilland 3  
de Havilland 4  
de Havilland 6  
de Havilland 9A  
de Havilland 10  
F. 2A Flying-boat  
F.E. 2B  
F.E. 8  
Handley Page 0/400  
Handley Page V/1500  
Martinsyde G.100  
Elephant  
Martinsyde Buzzard  
R.E. 8  
S.E. 5 and 5A  
Short "25"  
Sopwith Tabloid  
Sopwith Baby  
Sopwith Pup  
Sopwith F.1. Camel  
Sopwith Triplane  
Sopwith 1 1/2 Strutter  
Sopwith Cuckoo  
Sopwith Dolphin  
Sopwith Snipe  
Sopwith Salamander  
Vickers F.B. 5 and  
F.B. 9 Gunbus

### GERMANY

A.E.G. C-IV  
A.E.G. G-105  
Albatros C-III  
Albatros D-I  
Albatros D-III  
Brandenburg Seaplane  
D.F.W. C-V  
Fokker Eindekker  
Scout  
Fokker D-I and D-III  
Scout  
Fokker D-VI  
Fokker Dr-1 Triplane  
Fokker D-VII  
Fokker D-VIII  
Friedrichshafen G-III  
Gotha G-II  
Halberstadt D-II  
Halberstadt CL-II  
Hannoverranner  
Junkers J-IV  
L.V.G. D-IX  
L.V.G. C-V  
Pfalz D-III  
Pfalz D-XII  
Roland D-II  
Rumpler Taube  
Rumpler C-V  
FRANCE  
Bleriot XI  
Breguet 14A-2  
Caudron G-III  
Caudron G-IV  
Maurice Farman Long-horn  
Maurice Farman Short-horn  
Morane Bullet  
Morane Parasol  
Nieuport 17C-1  
Nieuport 28C-1  
Nieuport two-seater

### ITALY

Salmon two-seater  
Spad S-VII  
Spad S-XI  
Voisin

### ITALY

Ansaldo S.V.A. Scout

### AMERICA

Curtiss JN-1 Jenny

### APPENDIX "B"

### GREAT BRITAIN

B.E. 8 (Bloater)  
Fairley IIIIC  
Fairley N.9  
F.E. 2D  
Nieuport Nighthawk  
S.E. 1  
Short "275"  
Short Shirl  
Sopwith 2F.1 Camel  
Supermarine Baby

### AMERICA

H. 12 Large America  
Flying-boat  
H. 16 Porte Flying-boat

### GERMANY

Albatros D-V  
Aviatik (1916 Type)  
Junkers CL-1  
Roland C-V Walfische  
Roland D-VIA  
Zeppelin Giant

### FRANCE

Dorand AR-1  
Henri Farman  
Spad S-XIII

### ITALY

Ansaldo "Ballila"  
Caproni Bn. 3  
Pomilio Scout

### APPENDIX "C"

### GREAT BRITAIN

Armstrong Whitworth  
F.K. 3  
Armstrong Whitworth  
F.K. 10 Quadriplane  
Austin Ball Scout  
Austin Greyhound  
Austin Triplane  
Avro Pike  
Avro Manchester I  
Avro Manchester II  
Avro Spider  
B.A.T. Basilisk  
B.A.T. Bantam  
B.E. 2A  
B.E. 2C (early type 1914)  
B.E. 2C (armoured type)  
B.E. 3  
B.E. 9 Pulpit type  
B.E. 12A  
Beardmore W.B. II  
Bristol "F" Scout  
Bristol Braemar Triplane  
Boulton Paul Bobolink  
Boulton Paul Bourges  
de Havilland 3  
F.E. 2  
F.E. 3  
F.E. 9  
F. 3 Felixstowe Flying-boat  
Fairley F. 2  
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Scout  
Sopwith Camel two-seater  
Sopwith Camel (with "H" struts)  
Sopwith Swallow  
Sopwith Bulldog  
Sopwith Hippo  
Sopwith Rhino  
Sopwith Snark  
Sopwith Bee  
Sopwith Cobham  
Sopwith Dragon  
Sopwith Snapper  
Sopwith Snail  
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Vickers F.B. 12  
Vickers F.B. 14 two-seater  
Vickers F.B. 19  
Vickers Vimy  
Westland M. 16  
Westland Wagtail  
Westland Weasel  
Wight Seaplane  
GERMANY  
Ago C-II  
Ago C-IV  
Albatros C-V  
Albatros C-VII  
Albatros C-X  
Albatros D-IX

### Albatros D-XI

Albatros Triplane  
Brandenburg "Star-Strutter"  
Dornier D-I  
Junkers E-I "Tin Monkey"  
Junkers J-IX  
Fokker C-1  
Pfalz Eindekker  
Pfalz Triplane  
Pfalz D-VIII  
Phoenix Scout  
Sablatini Seaplane  
Siemens D-I  
Siemens D-III  
Siemens D-IV  
Siemens D-VI

### FRANCE

Horace Farman  
Hanriot Scout (Belgian)  
Letord Night Bomber  
Nieuport 18 Scout  
Nieuport 18 Scout  
Nieuport 20 two-seater  
Nieuport 21 Scout  
Nieuport 23 Scout  
Nieuport 24 Scout  
Nieuport 25 Scout  
Nieuport 26 Scout  
Nieuport 27 Scout  
Nieuport 28 Prototype  
Nieuport 29 Scout  
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(Continued from page 23)

ageable. Also there was some question as to the efficiency of the pusher propellers operating in the slipstream of the tractor props. Furthermore, the transfer of crew members from the pilot nacelle to the hull via the scaling ladder in flight was questioned as it was in the N. C. 1.

Meanwhile, the N. C. 3 was completed and flown for the first time on April 23, 1919. This aircraft was identical to the N. C. 1 except that a fourth Liberty engine was located in the rear of the central nacelle. The right and left outboard tractor engines, with the central tractor-pusher arrangement, reduced the danger of off-thrust operation—should one of the outboard engines fail—from one-half to one-third. The soundness of this arrangement was demonstrated during the first flight of the N. C. 3 when her right outboard engine failed. The aircraft remained perfectly controllable, with only slight rudder correction to maintain a steady course. The N. C. 4, incorporating the N. C. 3 power plant configuration exactly, was completed later in April.

Although all four boats tested successfully, N. C. 2 was not destined to become a member of the actual flight team. During the testing period, a storm blew up which damaged the wings of the N. C. 1. Rather than build new wings, it was decided to scavenge the N. C. 2 and put her wings on the N. C. 1. At the same time, the central nacelle of the N. C. 1 was rebuilt to conform with the N. C. 3. Thus the three aircraft remaining had a common power plant arrangement—two outboard tractor engines and a central nacelle with a tractor-pusher combination.

In view of the extensive testing of modern day aircraft, where months or even years sometimes are required to work out the "bugs" in a design, it is interesting that the N. C. boats were sent on their historic flight only six months after delivery of the N. C. 1. There was little attention paid to performance characteristics of aircraft in those days, compared to today's thorough testing. Literally, in 1919 if an airplane flew at all, it was considered a success. On the other hand, the know-how and skill behind the designers and constructors of the N. C. boats was a practical guarantee that the N. C. designs would be successful.

### Across the "Pond"

Under Commander Towers' direction, the route established for the transatlantic flight was from Rockaway Beach to Trepassy Harbor, Newfoundland (940 miles), to Horta, in the Azores (1,230 miles) thence to Lisbon, Portugal, (950 miles). Once the Atlantic was crossed, a final flight was planned from Lisbon to Plymouth, England.

The morning of May 8, 1919 dawned over Rockaway Beach with a high overcast. The crew of naval officers, sailors and civilians who had taken part in the preparations watched as the flying boat crews climbed aboard for the historic flight. N. C. 1 was commanded by Lt. Cmdr. P. N. L. Bellinger; N. C. 3 by Commander Towers and N. C. 4 by Lt. Cmdr. A. C. Read.

As all three flying boats taxied out to take-off position, the N. C. 4 developed engine trouble and returned to shore. N. C. 1 and N. C. 3, however, took off for an uneventful flight to Trepassy. N. C. 4, her troubles corrected, arrived at Trepassy on May 10. There the ships were gone over by the crews of mechanics and on May 16, the three boats took off for the second stop of the flight, Horta, in the Azores.

(Continued on page 58)

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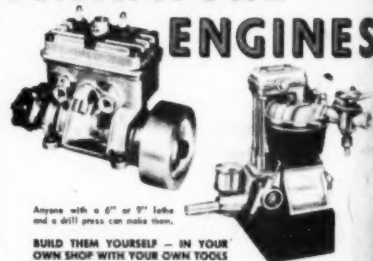
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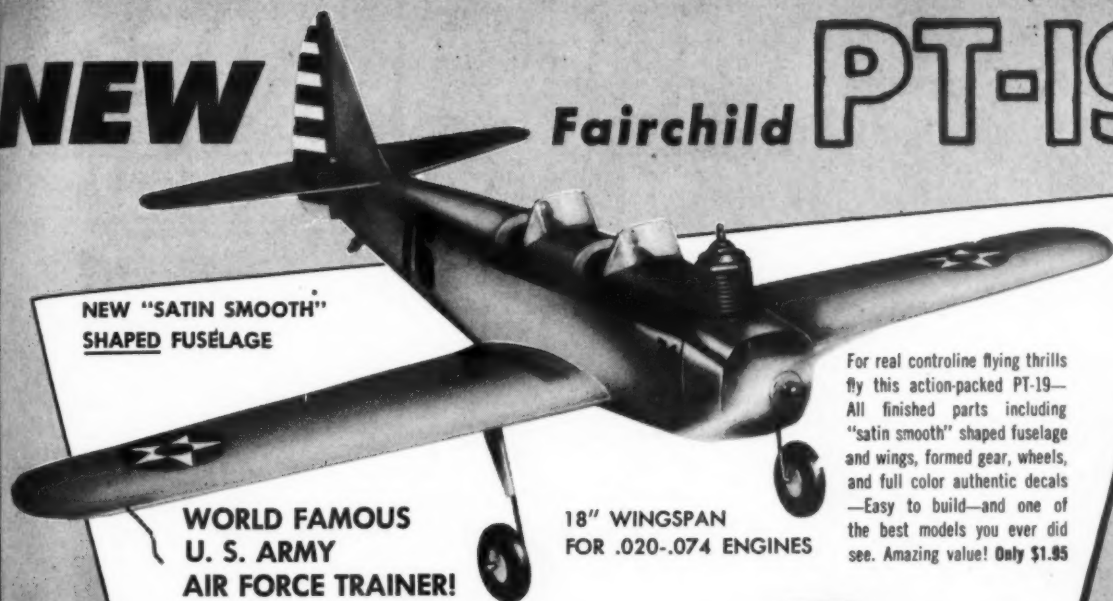
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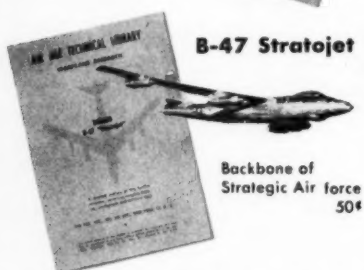
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Take-off was scheduled at dusk to take advantage of a full moon during the night and a daylight landing at destination. The moon was full, to be sure, but the three aircraft ran into dense fog toward the end of the hop. N. C. 1 and N. C. 3 became lost and both landed in the open sea to establish their location. Both ships subsequently were badly damaged by high seas and unable to take off, and began taxiing to the Azores.

N. C. 3, with the organizer of the flight. Commander Towers in charge, managed to navigate some 200 miles, taxiing to Ponta Delgada, Azores, over the open seas. N. C. 1, with Lt. Cmdr. Bellinger in charge, taxiing for about five hours before being found by the destroyer, Ionia. Badly shipping water, the N. C. 1 sank at sea before she could be salvaged, but the crew was taken aboard the Ionia unharmed. Much credit for saving of the crew is due to the fine work of the pilot of the N. C. 1, (then) Lt. Cmdr. Mark A. Mitscher, who became a distinguished Admiral in World War II.

N. C. 4, destined to complete the transatlantic flight, landed at Morta May 17 and flew to Ponta Delgada on May 20. Seven days later, the N. C. 4 completed her flight to Lisbon, Portugal. The Atlantic was conquered!

Then, on May 31, 1919, the N. C. 4 flew to Plymouth, England, where a grand and unexpected welcome awaited the successful crew.

A final note to the success of the Navy's transatlantic flight is the fact that no lives were lost in spite of the two forced landings at sea. When the crews arrived intact at Hoboken aboard the transport "Zeppelin," it was a grateful nation that welcomed these intrepid fliers who brought to the birthplace of powered flight the honor of first crossing the Atlantic by airplane.

## Foreign Notes

(Continued from page 31)

from Maurice Hammond in Cochabamba, Bolivia. Mr. Hammond, who moved to Bolivia in 1951 as a protestant missionary, first began model building in 1931, studied aeronautical engineering at the University of Minnesota and served in the Navy during the war as an aircraft electronics technician, afterwards acquiring a pilot's license and a seminary degree. Subsequently, he organized, in Bolivia, a model club under "Sky Pilots of America, International" which now also has branches in Japan, Mexico, and Alaska, as well as the U.S. and Canada.

Cochabamba has excellent model flying weather insofar as the mean year-round temperature is about 65 degrees and there is almost no wind except during a period of about two months of the year. The altitude (8,500 feet) has some effect on stunt models, making it necessary to open up maneuvers, but is not so bad as in the capital, La Paz, where, at the 2½-mile high airport (the highest in the world, it is said) motors perform so badly in the thin air that most Half-A's will not even start. On the other hand, thermals are very strong and gliders and rubber jobs go o.s.s. easily.

In general, control-line is preferred because mountainous and jungle terrain makes retrieving free-flight models somewhat hazardous. Great interest has, however, been shown in club flying demonstrations. Every flying session brings people running from all over the neighborhood, says Mr. Hammond, and a stunt and com-

(Continued on page 60)

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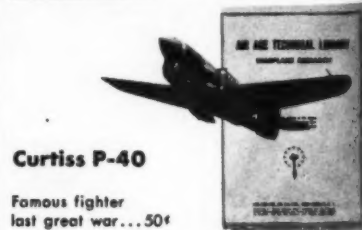
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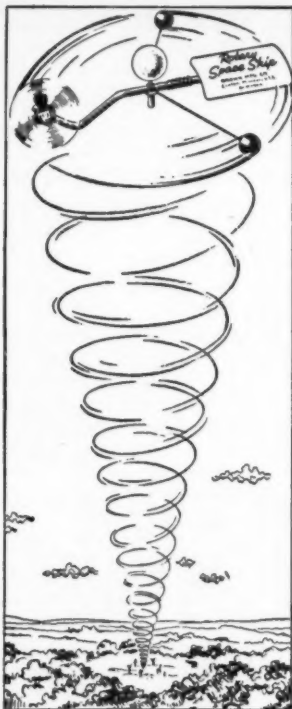
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bat demonstration made at a recent sports festival in the Cochabamba Municipal Stadium in honor of Bolivia's president, Dr. Hernan Siles, turned out to be the sensation of the day. As a result of this demonstration, the Bolivian civil aeronautics board has decided to sponsor a national contest.

Bolivia is, of course, one of the places where balsa grows and plentiful stocks are, therefore, always available, which are cut on a small circular saw. Most other supplies: motors, fuel, cement, etc., have to be obtained from the U.S. and this presents some difficulties, due to import restrictions and high tariffs (100%). With the growing acceptance of the hobby, however, there will doubtlessly be some easing of the situation and we look forward to hearing of further progress from Bolivia and wish Maurice Hammond continued success in his good work.

#### In Brief . . .

Czechoslovakia . . . The Model Research Center at Brno, which has been mainly responsible for the outstanding MVVS model racing engines, is now turning its attention to free-flight motors for 1958—for the next World F/F Championships.

Switzerland . . . Seen at Geneva: a beautifully-built C/L stunt Pitts-Skelton "Little Stinker" of 7-ft. span and 1½ sq. yards of wing area. Weight: 8-lbs. and not even the Mac 60 fitted could cope.

Italy . . . Rumored: a new twin-cylinder racing glow .15 motor from B.40 designer Barbini. New to the racing car field: the E.T.1, a twin-shaft Diesel .15 which looks like a copy of the all-conquering Oliver.

#### MAN at Work

(Continued from page 7)

► Ole Gilliam was right. What do you do the second time around on these Nationals stories? Still you can't say that if you've seen one, you've seen them all. Over 350 entries in radio, an all-week event that is a Nationals within a Nationals, aloof, independent. Here to see, Chet Lanzo's RC museum piece from the Akron Nationals—and when was that? It had a wire pylon, ala Bassett's first gas model, a winner long before the war. Two wars ago. The Good brothers winning at Detroit in 1939 (was it?) A miracle it seemed. Modelers would never conquer radio. Jim Walker winning the next year because he taxied out and

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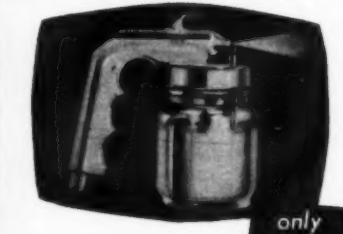
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Give your model that "finishing touch"! The Hobby Spray Gun sprays any type of paint, dope, vinyl, lacquer, or water-base paint. Will spray up to 10 sq. ft. with one filling of 48 cc. jar. It is chrome plated for easy cleaning and protection against chemical action. Includes vacuum attachment. May be used with piped or compressed air. No moving parts, always in adjustment, simple to operate. The ideal spray gun for modelers and hobbyists and the do-it-yourself fan... paint your model planes, cars, trains, boats, display shelves, etc.—the Hobby Spray Gun gives them that "finished touch".

**stewart/lundahl co.**

7342 Fulton Avenue  
North Hollywood, California

took off; Siegfried the year after with a loop. Wow! Joe Konefes Buzzard Bombshell free flight in Chicago playing tag with the clouds for 45 minutes. The Ohlsson 60 was the bomb that year. Walker demonstrating the first Fireball and no one having any, thank you! Who wants a model on wires? Who indeed. J. C. Madman Yates, stunting his Orwick 60 Madman, darn near free flying overhead on eights, with lines deeply bowed, J. C. not moving at all, relaxed, just steering the thing through maneuvers. And it had dihedral! Minneapolis that was. Ray Arden handing out samples of glow plugs there. What is this thing? Why don't they stop fiddling around? The "shoe-polish" glow fuels. Novelty stunt events, glider towing, etc. Slagle, bare footed at Wichita stunning everyone with his stunt performance. The 100 mph speed barrier smashed. Who would ever beat Wallich and Newberger in speed and whatever happened to them? Storey and McBrayer with the team race idea and sample planes (Storey's Key) at the 1948 Olathe meet. Perhaps it is the firsts that make the story?

Contestants who rode bikes to the Nats. Clubs who hired or even bought broken down old buses for 1,000 mile safaris to the biggest of all meets. Goldberg with a pylon, unimpressive, at closing time in Detroit in '38 and his Zippers blew the lid off in '39. Beeler's Arrows. Shulman's helper in 1940 who scaled a moving free train to continue the chase for a Wedgie. A man is as good as his helper. The greatest rubber model ever designed, Jim Cahill's Clodhopper, floating on a dark afternoon in Detroit when nothing else would stay up. Alvie Dague's and Roy Wriston's sky-rocketing rubber jobs. Who can forget the Tulsa boys! Those quarter-to-five finishes in D speed as the California boys fought it out. Dallas thermals. The clear, blue sky, dotted with white specs thousands of feet high. Models coming down as much as 60 miles away. Enthrop's 24-foot free flight, a pin point in the blue. Hugh hand gliding the thing in the hangar one night—like an indoor model, almost. Goldberg's Valkyrie, with 1,400 pieces of wood, predating the Zippers.

Trophies have changed. The great name trophies are all gone. Remember the Texaco trophy for gas? The Mulvihill—going back to the twenties, this venerable and beyond-value trophy is now thrown in as an extra. Bob Hatschek won it this year and called it the thrill of his life. The Moffett. It took two men to tote some of the oldies. The Stout. Now that trophies are given away by the hundreds, like blue stamps, no one can service and repair damaged perpetuals. It takes five hours to hand out the trophies. There is no prestige to winning. Nobody cares about publishing winning models.

► Radio models do wild spins, Cuban eights. A jet hit 178 mph, an A speed job 155 plus. So what. Bud, did you see those keen looking juniors. Can some of these kids fly models! Great to see them on the field, mending, readying, flying. Making friendships for years to come. Here, we suspect is the real story. You'd have to be a junior to tell it.

## NEW JET ENGINE KITS

To our knowledge the only kits on the market that house the engine.

**F-100** wing span 22" length 27" **\$24.50**

**F-86** wing span 26" length 27" **\$24.50**

**Mig-15** wing span 24" length 24" **\$22.50**

**F-94C** wing span 31" length 26" **\$19.95**

**TIGER JET ENGINE** 1 3/4 LB. THRUST **\$19.95**

**F-86** wing span 34" length 35" **\$29.95**

**F-100** wing span 27 1/2" length 33" **\$29.95**

**F-84** wing span 37" length 35" **\$22.50**

**DYNA JET ENGINE** 4 1/4 LB. THRUST **\$35.00**

## BUILD THE KING OF THEM ALL!

**B-36D \$89.50**

113" WINGSPAN  
79" LENGTH

FOR 6 - "19" ENGINES

OTHER  
MULTI  
ENGINE  
SCALE  
FLYING  
MODELS

**SUPER CONNIE** wing span 73" length 67" **\$59.00**

**C-47** wing span 48" length 32" **\$24.50**

**SA-16** wing span 53" length 37" **\$25.95**

**P2V-4** wing span 50" length 39" **\$25.95**

**P2V-7** wing span 52" length 47" **\$27.95**

**JAP BETTY** wing span 42 1/2" length 35" **\$24.50**

**C-45** wing span 55" length 40" **\$28.00**

**C-46** wing span 62" length 44" **\$29.00**

**C-119** wing span 56" length 38" **\$29.50**

**B-26** wing span 59" length 43" **\$29.95**

**BLACK WIDOW** wing span 54" length 41" **\$29.95**

**P-38** wing span 58" length 42" **\$29.95**

**SUPER DC-3** wing span 61" length 44" **\$29.95**

**B-29** wing span 82 1/2" length 59" **\$39.50**

**DC-6B** wing span 71" length 60" **\$47.50**

## SINGLE ENGINE KITS

**CLASS B-C \$10.00**

L-17 Navion ME-109 F8F Bearcat FW-T90  
A6M3 Zeke F4U Corsair F-51 Mustang  
AD-4 Skyraider Beechcraft Bonanza

Insist on EUREKA KITS—the most complete kits on the market. All parts pre-cut by hand, balsa planking, formed gears, rubber tires, gas tanks, props, decals, hardware, full size blue prints. Some feature aluminum cowling and completed full shock gear plus all flight tested designs.

If your dealer can't supply you, order direct from

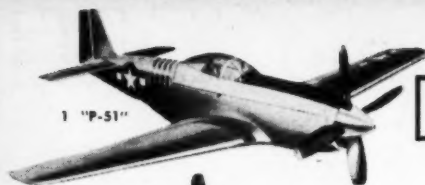
**EUREKA  
ENTERPRISES, INC.**

Tel. No. 115 W. GRAND  
FO 5-9894 OKLAHOMA CITY, OKLA.

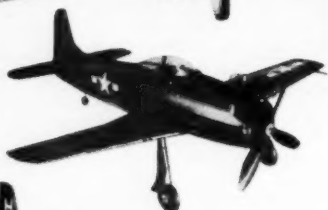
# ALL TIME FAVORITE FLYING SCALE

*Controliners*

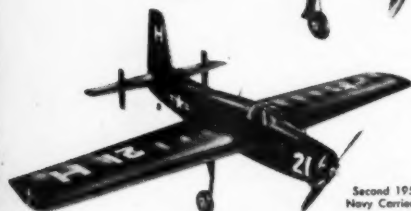
by *Berkeley*



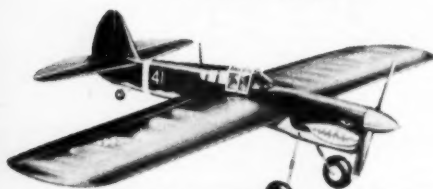
1 "P-51"



2 "F-8-F"



3 GRUMMAN "GUARDIAN"



4 "P-40 WARHAWK"



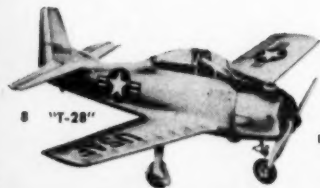
5 "AT-6 TEXAN"



6 "P-47 THUNDERBOLT"

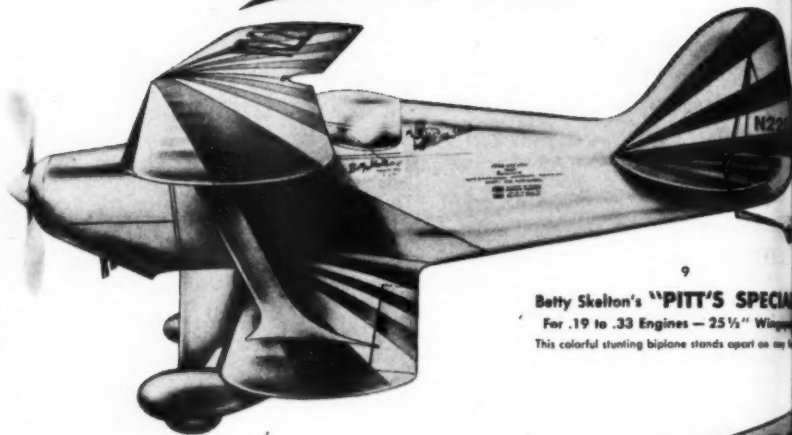


7 CURTISS HAWK "P-6E"

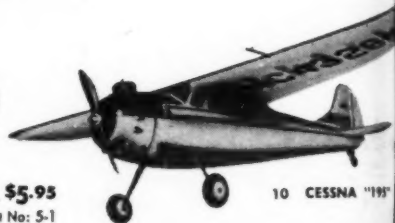


8 "T-28"

First 1957 Nats  
Flying Scale—Junior



Betty Skelton's "PITT'S SPECIAL"  
For .19 to .33 Engines — 25 1/2" Wingspan  
This colorful stuntling biplane stands apart on any field



10 CESSNA "195"



11 "T-34-A MENTOR"



12 "SHOESTRING"



13 "AJ-1 SAVAGE"



14 "MINNOW"

- |   |              |
|---|--------------|
| 1 North American "P-51 MUSTANG"                   | \$5.95       |
| For .19 to .36 Engines — 37" Wingspan             | Kit No: 5-1  |
| Retractable Gear; Flaps; Rudder; Elevator Control |              |
| 2 Grumman "F-8-F BEARCAT"                         | \$4.95       |
| For .29 to .65 Engines — 35" Wingspan             | Kit No: 5-3  |
| 3 Grumman "GUARDIAN" Semi-Scale                   | \$7.95       |
| For .19 to .36 Engines — 53" Wingspan             | Kit No: 10-2 |
| Metal Cowl; Designed for Stunt and Navy Carrier   |              |
| 4 "P-40 WARHAWK" Semi-Scale                       | \$6.95       |
| For .19 to .35 Engines — 45" Wingspan             | Kit No: 10-1 |
| Metal Cowl; Stunt Flaps; Flying Tiger Decals      |              |
| 5 North American "AT-6 TEXAN"                     | \$4.95       |
| For .19 to .33 Engines — 31" Wingspan             | Kit No: 6-1  |
| Metal Cowl; Embossed Canopy; Army and Navy Decals |              |
| 6 Republic "P-47 THUNDERBOLT"                     | \$4.95       |
| For .29 to .65 Engines — 41" Wingspan             | Kit No: 5-2  |
| Automatic Wing Flaps; Engine Throttle Control     |              |
| 7 Curtiss HAWK "P-6E"                             | \$4.95       |
| For .09 to .15 Engines — 24" Wingspan             | Kit No: 7-1  |
| Metal Cowl; Metal Wheel Pants; Colorful Decals    |              |
| 8 North American "T-28"                           | \$5.95       |
| For .23 to .36 Engines — 30" Wingspan             | Kit No: 6-2  |
| Metal Cowl; Tricycle Gear; Step Keel Alignment    |              |
| 9 "PITT'S SPECIAL"                                | \$5.95       |
| For .19 to .33 Engines — 25" Wingspan             | Kit No: 9-2  |
| Metal Cowl; Metal Wheel Pants; Decal Flare Design |              |
| 10 Cessna "195"                                   | \$5.95       |
| For .19 to .49 Engines — 36" Wingspan             | Kit No: 9-1  |
| Metal Cowl; Step-Keel Fuselage Construction       |              |
| 11 Beech "T-34A MENTOR"                           | \$5.95       |
| For .14 to .29 Engines — 33" Wingspan             | Kit No: 6-3  |
| 12 "SHOESTRING"                                   | \$5.95       |
| For .14 to .36 Engines — 28" Wingspan             | Kit No: 9-3  |
| Metal Cowl; Spinner; Wheel Pants; Landing Gear    |              |
| 13 North American "AJ-1 SAVAGE"                   | \$7.95       |
| Two .045 to .099 Engines & Jetex — 27" Span       | No: 8-1      |
| Metal Cowl; Five Wheels; Carved Bodies; Nacelles  |              |
| 14 "MINNOW" Cosmic Wind                           | \$5.95       |
| For .09 to .36 Engines — 28" Wingspan             | Kit No: 9-4  |
| Metal Cowl; Spinner; Wheel Pants; Step-Keel       |              |

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# FLYING SCALE

## Controliners

### by Berkeley

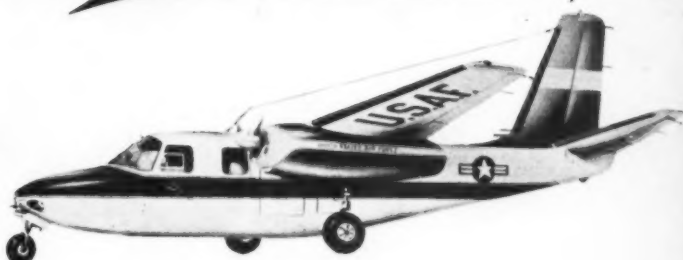
#### Lockheed P-38 LIGHTNING

For Two .14 to .29 Engines—41" Wingspan— $\frac{3}{4}$ " Scale

During World War II, the "P-38" Lightning makes a great twin engine model. Carved and hollowed fuselages included.

Kit No: 8-4 \$8.95

- Carved & Hollowed Nacelles
- Formed Celluloid Bubble Canopy
- Die-Cut Balsa and Plywood Parts
- Complete Full Color Decals
- Carved & Hollowed Fuselage
- Full Size Detailed Plan



#### President Eisenhower's "AERO COMMANDER"

For Two .049 to .099 Engines—33" Wingspan— $\frac{1}{4}$ " Scale

Kit No: B-3

\$9.95

A beautiful twin engine model, and an excellent flyer. Plans are highly detailed for rapid assembly. Carved and hollowed fuselages and nacelles greatly simplify construction. Decals are authentic. Twin engine flying is really fun - why not try it?



#### U.S. NAVY CURTISS GOSHAWK

Kit No: 7-2

For .074 to .15 Engines— $\frac{1}{4}$ " Scale—23 $\frac{1}{2}$ " Wingspan

This is another great historical model and was the counterpart of the famous Army Hawk. From famous "Lexington" and "Saratoga" carriers, they fit young pilots who were destined to be the leaders in World War II. A spectacular model!

Thrill to the perfect scale realism as your "Goshawk" taxis across the field, gathering speed as you gun the engine, and screams airborne with all the realism and maneuverability of the prototype. He would be the top biplane fighter of the mid thirties and top favorite for Navy Carrier type events.

- Dummy Engine
- Strongest Metal Wing Struts
- Metal Hardware



#### DOUGLAS SBD "DAUNTLESS"

NAVY DIVE BOMBER

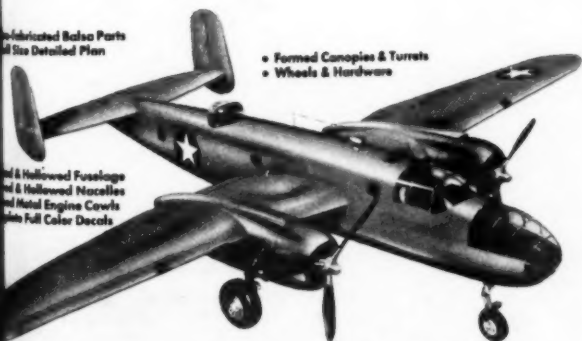
For .14 to .36 Engines—31" Wingspan— $\frac{1}{4}$ " Scale

Kit No: 5-4

\$6.95

- Metal Engine Cover Ring
- Automatic Dive Brakes
- Authentic Multi-color Decals
- Carved and Hollowed Fuselage
- Formed Celluloid Bubble Canopy
- Full Size Berkeley Detailed Plans

As a flying scale design or Navy Carrier type model, this plane is a beautiful flyer. Easy to control, responsive, with excellent take-off and landing qualities. The dive brakes can be made to operate for landings if desired, or rigged to open on full-down elevator. With motor control added, you can make realistic power-on carrier landings.



#### "Tokyo Raider" North American B-25 "MITCHELL"

For .28 to .19 Engines— $\frac{1}{4}$ " Scale—Big 42" Wingspan—23" Overall

Kit No: B-2 \$14.95

- Retractable Landing Gear
- Retractable Wing Flaps

With twin engines screaming, the B-25 roars across the field. In 100 feet it's airborne and the gear retracts. With lowered flaps and increased speed, it's responsive to every command. Who can tell it from its prototype as throttled down, it settles in for a power

on landing. Flaps down, gear down and locked. Individually shock mounted gears flex upward and rearward on impact. Gun the engines now and off you go again. Perfect for the Navy Carrier event, this detailed scale replica is easily assembled from this marvelous kit.

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# "MODEL OF THE MONTH" by Berkeley

## FOUR NEW SCALE DESIGNS

EASY TO BUILD! FREE FLIGHT OR MONOLINE EASY TO FLY!

### PERFECT FOR THE COX "PEE-WEE" ENGINE

For .020 to .049 Engines 16½" - 22" Wingspan 5/8" Scale



**"AIRCOUPE"**

Kit No. 24-4 \$1.95



**"TRI-PACER"**

Kit No. 24-3 \$1.95



**"CESSNA 172"**

Kit No. 24-2 \$1.95

KITS FEATURE:  
NEW "JIG-PLAN"



**"BIRD DOG"**

Kit No. 24-1 \$1.95

Berkeley Flying Scale Designs have won First Places at every Nationals from 1938 thru 1957.

... And now - a new series of high performance, detailed and authentic flying scale designs especially created for the new power-packed .020 engines. Light in weight for high performance, rugged for durability and highly detailed for the exacting builder. Perfect for small fields!

- Molded Plastic Cowls, Fuselage Parts
- Authentic Multi-color Decals
- All Necessary Hardware, Wheels
- Full Size Detailed Plans
- Formed Wire Landing Gear
- Die-Cut Balsa and Plywood

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# ... PROOF OF THE PUDDING!

## 1957

### NATIONALS WINNERS

Partial list of 1957 Nationals Winners using Fox Motors: \*

#### ★ STUNT

All First Place Winners were Fox powered

1st Junior: Bob Winks — Fox 35

1st Senior: Arthur Pawloski — Fox 35

1st Open: George Aldrich — Fox 35

#### ★ COMBAT

Senior and Open First Place Winners were  
Fox powered

1st Senior: Arthur Pawloski — Fox 35

1st Open: Joseph Kastetter — Fox 35

#### ★ RADIO CONTROL

1st in Rudder Only:

Richard C. Allen — Fox 35

1st in Multi-Channel:

Bob Dunham — Fox 35

#### ★ TEAM RACING

Robert Hemingway — Fox 29

#### ★ CONTROL LINE ENDURANCE

Non-Refueling

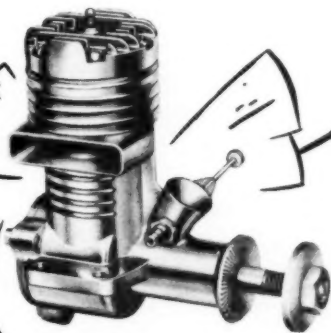
Thomas Deville set a new record of  
1 hour, 34 minutes, 19 seconds with a  
Fox 25.

#### ★ CONTROL LINE ENDURANCE

Refueling (Non-sanctioned event)

Otto B. Sendish set a new world's record  
of 37 hours, 15 minutes a few weeks  
before the Nationals with a Fox 59.

**CONGRATULATIONS** to these and  
to the many other winners not listed.



Fox 35 Stunt

## FOX...

The  
"Winningest"  
Motor

\* NOTE: We believe this information  
to be accurate; however, the short  
time between the Nationals  
and closing date of this publication  
made it impossible to double check.

SMART CHAMPIONS CHOOSE



### FOX MANUFACTURING CO., Inc.

Designers and Manufacturers of the World's Finest Model Airplane Motors.

1219 N. 32nd STREET, FORT SMITH, ARKANSAS



FROM OUT OF THE FUTURE...

\$3.95

*Berkeley's*

For Free-Flight or Stanzel's Monoplane  
25" Wingspan .049 Engines

HIGH PERFORMANCE DUCTED FAN

DOUGLAS **SKYRAY** F4D-1

Designed by: Henry Struck  
Three Time National Scale Model Champion

KIT FEATURES:

• Ready-to-Install Metal Propulsion Fan

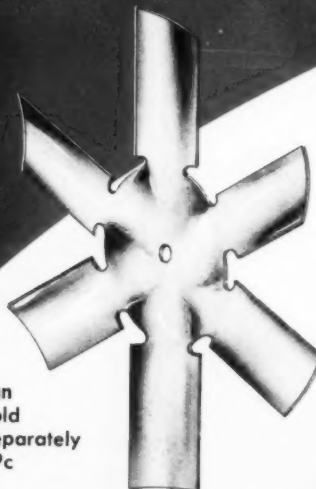
• Formed Celluloid Bubble Canopy

• Complete Full Color Decals

• Die-Cut and Shaped Balsa Parts

• Covering Material

• Full Size Berkeley Detailed Plans and Special Instructions



Fan  
Sold  
Separately  
69c

Aluminum pusher type Fan is  
included, and is ready to use.

#### FULL SCALE AIRPLANE:

The F4D-1 "Skyray" is a standard carrier-based fighter U.S. Navy. Over 100 of these delta type interceptors operation, and production orders will continue through

The "Skyray" officially set a world speed record for a kilometer closed circuit of 728.11 miles an hour. The is powered by the famed Pratt and Whitney "J-57" jet

#### BERKELEY'S KIT MODEL:

First kit model with internal ducted fan to produce jet. Henry Struck has been experimenting and testing this propulsion for the past five years, - resulting in a refined ducted fan design, developing six inch thrust, - ample power for free-flight or powered sight flights were common on original Skyray model.

New pull-starter type engine with fuel and glow-wire connections make starting engine possible without opening hatches. Very easy model to build, and

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